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CONTENTS.

PAGE

CHAPTER I.

Sculpture 1

CHAPTER II.

Painting 44

CHAPTER III.

Mummies 96

CHAPTER IV.

Tombs 160

CHAPTER V.

Egyptian Mummy-Cloth 182

CHAPTER VI.

Pyramids—Great Sphinx 197

CHAPTER VII.

Papyrus 261

CHAPTER VIII.

On the Sacred Animals of Egypt 286

PAGE

CHAPTER IX.

Arts of Antient Egypt 320

CHAPTER X.

The Rosetta Stone 342

ILLUSTRATIONS.

B. M. signifies *in the British Museum.*

No. Page
1. Figure of a Male and Female seated together, B. M. 3
2. Seated Male Figure, with Sandals, holding Ram's Head, B. M. 6
3. Seated lion-headed Figure, with Disk and Crux Ansata, and a Greek Egyptian Head, B. M. 10
4. Bas-relief, representing Boats and Head of a Female Figure, B. M. 14
5. Fragment of Female Figure, remarkable for fine form, B. M. 15
6. Egyptian Sandals (on Figure, p. 6) 16
7. Greek Egyptian Statue of a Man 18
8. Sitting and kneeling Figures, presenting hieroglyphic Tablets or Altars, B. M. 19
9. Canopi, or Headed Jars, B. M. 26
10. Sitting Altar-figure, B. M. 28
11. „ „ and sculptured Figure of the Hawk, B. M. 29
12. A Hand holding something resembling Heads of Maize. 30
13. Fragment of a seated cross-legged Figure, B. M. 31
14. Scarabæi 33
15. Block surrounded with Figures in high relief, B. M. 35
16. Standing Female Figures, lion-headed, with the Disk, B.M. 39
17. Sitting Figure, and Head with fine Beard-case, B. M. 40
18. Painting of Herds of Oxen, B. M. 56
19. „ of Bird-catching in a Canoe, B. M. 59
20. „ of Flocks of Geese, B. M. 61
21. „ of Male Figure on a beautiful Chair, with Chisel and Mallet, B. M. 64
22. An elegant Egyptian Chair 66
23. Painting of Figures carrying rabbits and sheaves of barley, B. M. 68
24. Painting of a party of Egyptian Ladies and Gentlemen, B. M. 69
25. Painting of Cars and Horses, B. M. 72
26. „ of a Garden and Pond with fish and ducks, B. M. 73
27. „ of Ladies and Gentlemen, with music and dancing, B. M.. 75
28. Painting of a Table covered with articles of food, B. M. 77
29. An Egyptian Boat, with sail and oars 91
30. „ „ from the Sarcophagus, B. M. 94
31. „ „ granite fragment, containing seated Figure 95
32. Exterior Case of a Mummy, B. M. 101
33. The Great Sarcophagus of green breccia, B. M. 137
34. Painting of Ploughing 162

No. Page
35. Painting of Ploughing and Sowing 163
36. „ of a Harp and Harper 176
37. „ „ „ 177
38. „ of Egyptian Vessels of elegant form . . 178
39. „ of Men carrying a large jar 180
40. „ of Asses with panniers 195
41. View of the Great Pyramids of Jizeh. . . . 199
42. Ground-Plan of Ditto 203
43. View of the High Gallery in the Great Pyramid . . 222
44. „ of the Great Sphinx 245
45. „ of one of the largest Pyramids of Nubia . . 248
46. Drawing of a Figure writing with a goose-quill pen . 268
47. „ of Sacred Animals, B. M. 287
48. „ of two species of the Crocodile . . . 301
49. „ of the Common, or Great Crocodile . . 302
50. „ of Horus trampling on the Crocodile . . 306
51. „ of the Ibis, the green or black, . . . 307
52. „ „ the white 308
53 and 54. Drawing of Sacred Serpents . . 316, 317
55. Fac-simile of the Greek Inscription found in front of the Great Sphinx 380

Note.—*The Numbers on the following articles in the British Museum have been altered since the drawings of them appeared in the first volume of the present work.*

Page		Old No.	New No.
50.	Museum Obelisks	5 and 70	2 and 33
110.	Capital of Egyptian Column	none	64
112.	Egyptian Column with Cartouches	none	64
121.	Friezes	none	22
213.	Hawk-headed Sphinx	3	11
217.	Ram's Head	9	7
245.	Memnon's Head	none	19
252.	„ „	none	19
256.	Colossal Fist	7	9
263.	Seated Colossus	38	21
271.	Colossal Head	8	15
272.	Colossal Arm	8	18
274.	Colossal Head in profile	8	15
276.	Colossal Bust	73	30
277.	Seated Colossus, side view	38	21
376.	Kneeling Figure	52	42
378.	„ front view	52	42
383.	Egyptian High-Relief	22	92

THE

BRITISH MUSEUM.

EGYPTIAN ANTIQUITIES.

CHAPTER I.

SCULPTURE.

THE following remarks are made principally with reference to what Winkelmann has said on the subject of Egyptian sculpture, in the first chapter of his second book on the History of Antient Art; but our object is not so much to bring forward in a new form all that he has advanced, as to attempt to correct various errors into which he has fallen.

It is generally assumed, that all Egyptian figures are stiff, ugly, and devoid of grace, which Winkelmann, going a step further, and making another assumption, perhaps equally unfounded, attributes to the general want of beauty in the nation. But the opinion of beauty differs so much among various families of the human race, that we must be careful before we come to hasty conclusions on this subject. For example, there is no doubt that among white people generally, and especially among the vulgar, the ideas of blackness and ugliness are inseparable, while their own standard of beauty is formed by the kind of specimens with which they are familiar. Hence, large round cheeks, marked with great patches of red, a bosom swelling beyond all reasonable dimensions, and a thick squat form, are looked on with pleasure by a large part of that branch of the human race to which the English nation belongs. Now, if such figures as these were represented in stone, in all their due proportions, and placed by the side of the male and female figures of the Museum (No. 31), as represented in the accompanying print, we have no hesitation in saying, that the Egyptian figures, both in the expression of countenance and the outline of their form, would be pronounced by all educated people, infinitely superior; and superior, too, in both these respects, to the average kind of form that our eyes are familiar with.

This group was found in a tomb (see Museum Catalogue, No. 31), where, according to Egyptian fashion, we often see the wife and husband united after death by the hands of the sculptor.

These two figures are seated: the back of the chair to which they are attached, is a flat unornamented slab, about two feet five inches high, and 13½ inches wide; the material is a soft sandstone. The male is seated on the right and the female on the left, with a small figure, apparently a child, placed on a lower seat between them. The right arm of the male rests on his lap; the left goes round the female's back, and the hand rests on her left shoulder. The position of the female is the same, if we write left for right, and right for left hand. Some further remarks will be made on these figures in the next chapter.

Another objection made to the Egyptian artist* is, that he had no anatomical skill, except, perchance, he might know something of the inner parts of the human body, if the embalmers did not keep it to themselves; and indeed, if they communicated it freely, such information would be of small use to the sculptor. The same remark would apply to the Greeks, who, even in the time of Galen, were not accustomed to dissect, and were compelled to derive their whole knowledge of the human figure from a careful study of the outward form, and the examina-

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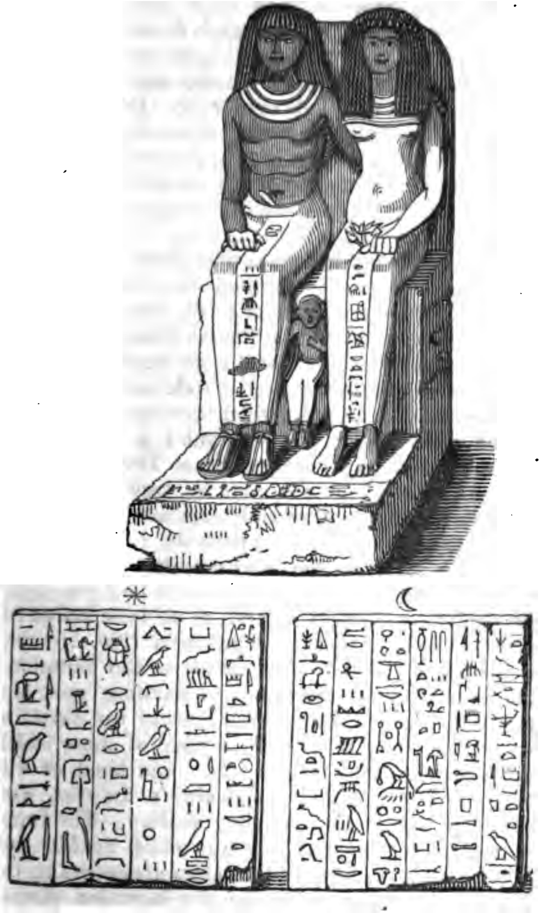
* Winkelmann, vol. i. p. 98. French Ed. 1790.



No. 31.

tion of such bones as they could procure. Their gymnastic exercises, however, gave them great opportunities of studying the human figure naked, and of seizing with accuracy those muscles which were developed by different kinds of exercise. But in Egypt, too, if we may judge from many of the existing painted walls, it was common for the poorer class at least to go naked, or nearly so; and it was not unusual also to practise athletic sports, such as are represented in the drawings, from the tombs of the kings at Thebes; and still better in many of the beautiful plates of Rosellini.

It may be readily admitted that the Egyptian figure might be very inferior to the Greek, and that their representation of the human form, in outline, is too angular and stiff; but it is not at all uncommon to find among the figures even of rude execution, a few that are placed in attitudes which are easy and graceful.

The colossal arm (No. 18, vol. i. p. 272) of the Museum, brought by Belzoni from Thebes, has the external anatomy of the muscles very boldly, and, we believe, tolerably correctly expressed; and, when we consider its colossal proportions, and the exquisite polish given to the hard granite of which it is composed, we must acknowledge it to be a wonderful piece of execution. This arm, as we have before remarked, belongs to the colossal head (No. 15) that is placed, in the Museum, opposite to the Memnon; the figure, when entire, was a standing one, and the arm, as usual, hung down close to the sides, to which they were attached by a piece of stone which was left there for that purpose. The hand of this figure is closed, which is not always the case with Egyptian statues in a standing posture. The finest specimens of Egyptian sculpture which the Museum offers, are the colossal, which indeed are generally, but not always, superior to the smaller Egyptian statues.

The kneeling figures (Nos. 25, 27, 36) may also be referred to as fine specimens of the fulness and roundness of limb which the artist could give to his work. In No. 27, the sculptor has shown that his model was in nature, and that if he had been unfettered by the rigid rules of his art, he could have accomplished better things. No. 36, a fragment of a kneeling figure, is of still superior execution. An ornamented belt passes round the body, just where the figure is broken off; below the belt commences the longitudinal fluting or grooving along the thighs, which indicates the dress; it terminates above the knees. The projection caused by the pressure of the calf of the leg against the thigh, which rests upon it, is well and distinctly marked.

Callistratus* speaks of a marble satyr in one of the caves or tombs of Thebes, which had the veins strongly marked on the arms; probably he meant one of the compound forms, half human and half beast, such as we see in the Museum. The figure in the accompanying print (No. 26) has the bony parts of the legs, with the ankle-joints, very strongly and distinctly marked.

It is correctly remarked by Winkelmann, that the general character of the Egyptian sculptured naked figure is determined by straight lines, with little bending in them. In the seated figure the feet are placed parallel to each other, and exactly opposite, while in the sculptured standing figures the feet are generally placed in the same right line, one being advanced before the other. The great colossal seated figures had their hands placed flat on their thighs, as may be seen by the two specimens we have given, one from the Museum, and the other from the front of the temple of Ipsambul. As the arms are made to adhere to the bodies of standing statues, there can be no vigorous action represented by them; the Egyptians, in fact, reserved their reliefs for such subjects; their

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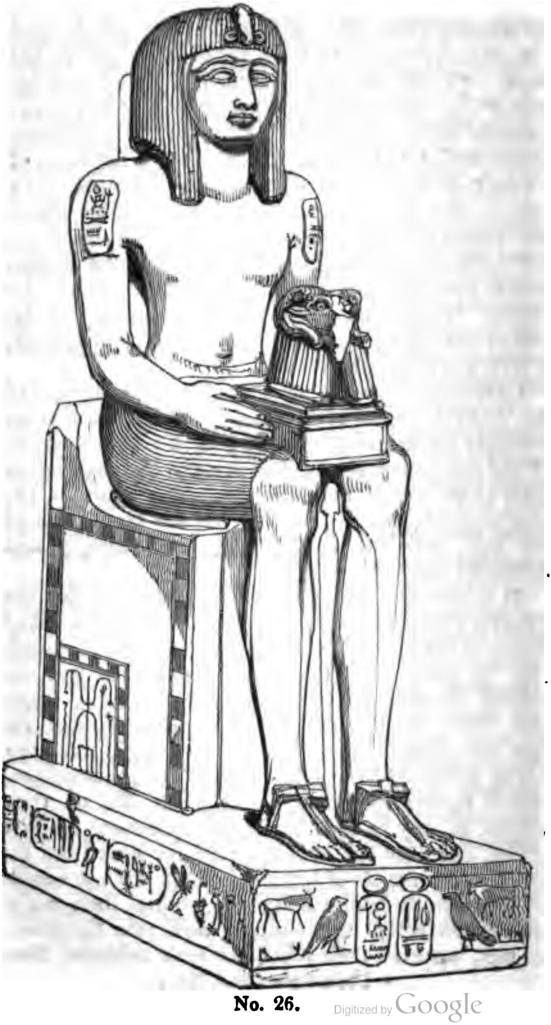
* Philostratus, Stat. No. 1.



No. 26.

statues are always in a state of repose. This forms one most striking difference between Grecian statuary, in its perfected form, and Egyptian art; the former represents the human figure entirely free, so as to be contemplated in every part, and also exhibits it, when the subject requires, with as much energy and motion as in a picture. The latter never shows the human figure in the round, either standing singly on a pedestal, or in a state of action; whether seated or standing, the back is attached to a mass of stone that forms, as we have already described, a component part of the work *. This is the case with all the specimens of Egyptian statuary in the Museum, except some of those singular crouching figures, which will be presently described.

We may mention, incidentally, in addition to the numerous proofs of the resemblance of antient Grecian and Egyptian art, the brief description by Pausanias (viii. 40) of the statue of the pancratiast Arrachion, which he saw in the agora of Phigaleia: "In other respects this statue is in the antient style, and particularly in the attitude; the feet are not much apart, and the arms hang down along the sides as far as the haunches. The statue is of stone, and they say that there was once an inscription on it, but this is obliterated by time." Arrachion died in the 54th Olympiad, or about B. C. 560, at which epoch, as we learn from this passage, the attitude of Greek statues was the same as that of Egyptian figures. This resemblance, or rather identity of antient art in the two countries is undeniable. But the Greeks at last emancipated themselves from the fetters of a traditional type and an unvarying conventional sameness; and by studying and imitating the human form, they gradually transferred its beauties to the statues of the deities, which, instead of being fashioned

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* See vol. i. p. 374.

upon the rules of antient art, gradually became the ideal personifications of beauty *.

The attitude of an Egyptian statue is always symmetrical, that is, the position of one-half of the figure taken longitudinally always corresponds exactly with the other: the only exception is the position of the arms, one of which is often in a different attitude from the other.

As a general rule the Egyptian sculptor, as we have observed before, executed animals better than men, and reliefs or figures in intaglio rilevato perhaps best of all. The birds, particularly those on the two obelisks in the Museum, and on some of the sarcophagi, have not only a most correct outline, but there is an air of life and motion given to the head, the eye, and the legs, which it would not be easy to surpass. We have already remarked that the sculptor probably felt more freedom in delineating the animal form, than the outlines of the deified human form, which were confined by strict rules.

It is a curious object of inquiry to endeavour to determine from the existing specimens of Egyptian sculpture, what was the national physiognomy and expression of face. But there are great difficulties in the way. We can hardly say with certainty what is genuine Egyptian sculpture, by which term we mean that style which prevailed in Egypt before foreign conquest, and particularly Greek influence, modified all the forms of art. We do not mean to say that the Egyptians ever lost entirely their national style of design, not even under the early Roman emperors; but it is undeniable that while their conquerors half adopted Egyptian forms and notions, they imprinted on them somewhat also of their own national character. No one will suppose that the

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* See Thiersch, Epochen der Bildenden Kunst, p. 230, and note pp. 54, 55.

head of the accompanying print* is pure Egyptian, when he has once compared it with other heads of the Museum, which are undoubtedly genuine; and yet it is not a pure Greek head, any more than some of the Greekish-looking temples in Upper Nubia are purely Greek. It has also the snake on the forehead, one of the marks of divinity on the genuine statues of Egypt.

The head and the extremities of Egyptian figures deserve our particular attention, if we wish to form exact ideas of the statuary of this people. The forehead is rather low, and the eyebrow less marked and prominent than in the Greek figures. The eyes are rather flat and long, not sunk deep in the head, and drawn in an oblique direction, which indeed is much more remarkable in some of the reliefs and paintings than in the statues. In the colossal statue of the Museum (No. 19), the eyes, eyelids, and eyebrows are not polished equally with the rest of the face, but left a little rough, which must have been done purposely, as they have found no difficulty in polishing other parts which present equal irregularities and corners. In the colossus (No. 15), the eye seems to have been polished, with the exception of a round part about the centre, which is left somewhat rough to represent the pupil. The hair of the eyebrows is very faintly marked, sometimes by nothing more than a line. The nose is rather short and rounded at the end, but on the whole a very good nose, and better than we see on an average in living specimens. That of the Memnon may be called beautiful, though it has not the European form; it is far from being so round and thick as that of his colossal neighbour opposite. Indeed the nostrils of the Memnon are, in our opinion, the finest pair in all the Museum, if we compare them with those of statues in perfect repose, and it is only

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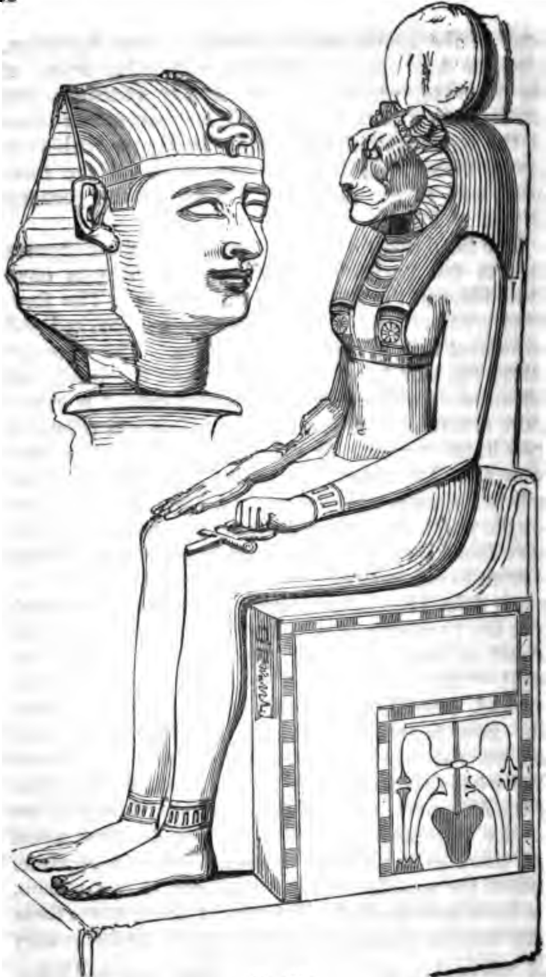
* The head (p. 10.) is not yet numbered; it is placed immediately in front of picture 180.



No. 63.

with such that any comparison can be fairly made. In Egyptian statues the lips are closed; they often wear a soft and placid smile, which is in good keeping with their quiet attitude: they may be called rather thick, though they do not approach at all to the large lips of the negro, nor do some of the specimens at all surpass those dimensions that may be looked on with pleasure. The lips of the granite figure opposite the Memnon are the thickest specimen the Museum offers, and the whole character of this face is much rounder and more massy than any other which we have seen. Though it is not the negro face, we cannot help feeling, as we look upon it, that its features recall to our minds that kind of outline which we understand by the term African, a word that means, in ordinary acceptation, something of the negro cast of face. The chin of this figure is broken, but it is easy for the eye to restore the part that is lost, and even then it is disagreeably small, and recedes too much when compared with our standard of taste. Indeed, in most Egyptian figures, we may observe that the chin is small.

The cheek-bones are rather high and marked; but the most extraordinary thing is the position of the ear, which, though not perhaps in all, yet certainly in most specimens of Egyptian sculpture, is placed much too high. This we may observe in the Memnon, and the colossus opposite to him, where the ears are as remarkable for the fineness of their execution as for the strangeness of their position. The head which we have just given (not numbered) has also the ears too high.

The extremities of the mouth are generally raised a little, which gives a kind of smiling expression to the face.

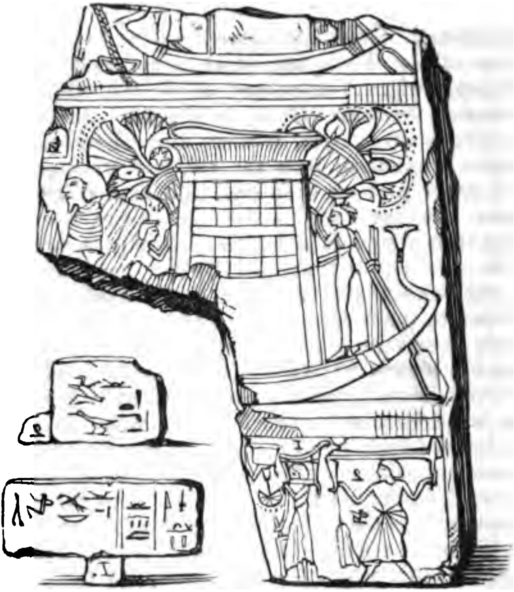
In examining the hands and feet, we find the former particularly clumsy and shapeless, especially in the colossal figure (No. 21, vol. i. formerly No. 38), where the hands rest flat on the thighs. But this cannot have arisen from inability to make them better, but from the artist adhering to a prescribed rule, which was probably founded on observing that the hands in this position are hardly seen in a colossal statue. But the feet are seen in such figures, and accordingly are worked with more care than the hands. The colossal fists alone are enough to prove that, when the artist found it necessary, he could give a better outline to the human hand. We also take the figure (No. 26) as another specimen, in which the hands are executed with tolerable accuracy. The Egyptian foot is a pretty long one, and flat and broad at the toes, as a foot ought to be that has not been spoiled by a shoe; but we do not agree with Winkelmann in considering the toes to be very ill defined. Even in the large colossal figure of the Museum, the toes are pretty well formed, and infinitely better than the fingers of the hand; while all the bones of the foot and leg are very strongly indicated on the male figure just referred to. Winkelmann also remarks, that the little toe is never curved and drawn up slightly as in the Greek statues, but in this again we are compelled to differ somewhat from him, from an examination of the specimens in the Museum.

We proceed now to make a few remarks on the drapery of the sculptured figures, and particularly those in high relief. Of head-dresses there is a great variety, but in these we should distinguish, if we can, between those which belong to representations of Deity, and those which may be considered as the usual forms of common life. The latter are better known from the paintings than from the sculptured figures in full relief, though there are several specimens in the Museum on painted statues. A large kind of cap covering the head completely, and descending in two long broad and rounded masses on each side of the neck, till they almost touch the breasts, is one of the most usual form of the female head-dress. The male figure (No. 8) has a head-dress of this description, which is not unlike a full-bottomed wig. The colossal head (No. 93) has a singular specimen of a head-dress. Instead of coming down straight, it forms a round sweep in its course downwards from the ear, and terminates at the lower part on each side, in a kind of rounded knot. The size of the breasts might lead us to suppose that this figure is a female; but this is doubtful. The ears are not covered by the head-dress, as is the case with all the specimens of Egyptian female statues in the Museum, except (A). The ears of the male figures are generally covered by the head-dress, but not always so (see No. 8); and the head-dress, when it descends upon the chest, generally falls down in broad flat bands on each side (Nos. 30, 21, 19).

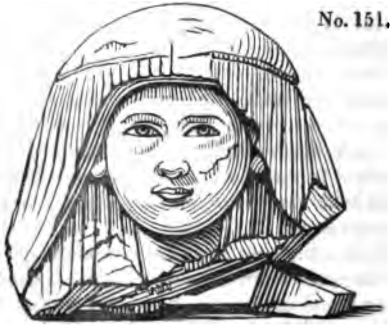
In the female figure (A), which is a high relief of sandstone painted, we see a more elaborate head-dress, covered on the top with a piece that does not belong apparently to the folds that hang down on each side.

There is another female figure in the Museum (Shelf 114), which is also painted, and remarkable for the expression of its countenance as well the regularity of the several features. If it is a specimen of an Egyptian woman, there need no longer be any doubt that the Egyptians, or at least the higher castes among them, belonged to a family entirely distinct from any of the so-called inferior races. Other male figures have the same kind of head-dress descending to the chest, as already described; but no one can take the figure, already referred to (not numbered), for genuine Egyptian, though it has the form of head-dress which we have been describing. It is, in fact, a Greek or Roman head, with an adopted costume.

As to the dress of the body, the great colossi and some minor figures appear to be naked, with the exception of their head-dress, and a cloth which goes round the middle, and is formed into long folds on

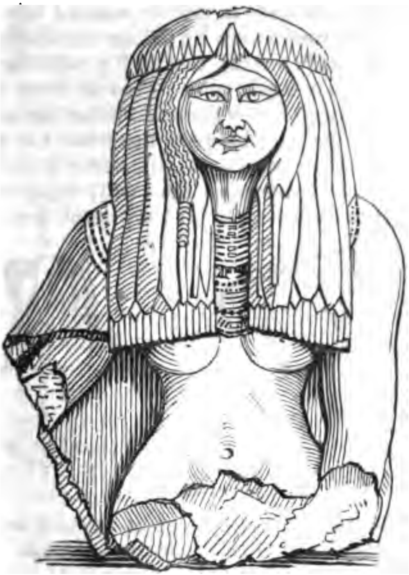


No. 151.



(A.)

No. 151. Since this drawing was made, other pieces of this bas-relief have been found and put together.

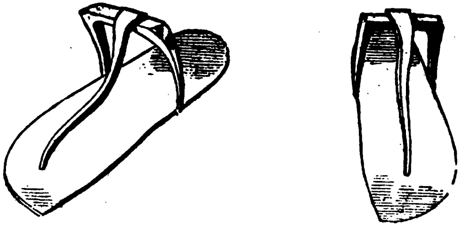


Shelf 114.

the thighs, giving them very much the appearance of being cased with corderoy. The male figure is, indeed, generally represented naked, all but about the middle, where a short vest or shirt is fastened by a belt, and covers part of the thighs. It appears from the paintings and bas-reliefs, that this simple costume was in very general use among the people. There are, however, exceptions.

The drapery of the Egyptian statues is generally a single vest so slightly marked that we should sometimes almost fail to discover it but for the border which is shown near the feet and the neck. This border also is sometimes indicated round the wrists and under the bosom. We see also occasionally an attem to mark the little folds or creases, which a thin cotton or linen dress would form by falling over the breast.

Winkelmann* remarks, that no Egyptian figure has shoes, except it be one of which Pococke speaks, which has a kind of ring below the ankle-bone, and attached to it a strap passing between the great toe and the next to it, as if to hold the sandal, which is not visible. The figure of the Museum (No. 26), which we have so often quoted, has sandals; they seem fastened by a strap passing between the great toe and its neighbour, and attached to an upper part, perhaps of wood, which crosses the instep and descends to the sole of the sandal on each side. The sole of the sandal and the wooden part which crosses the instep are evidently one piece in this instance.



Sandals.

Herodotus† says, that the Egyptian priests wore shoes of papyrus.

It will be observed that the figure (No. 26) bears a ram's head on his lap. Other figures also, both male and female, and figures as well standing as kneeling, bear in front of them what is probably the representation of a monolith or doorway, in which we see a single figure cut in relief; as in the print from the Museum (vol. i. p. 378). The back of these figures, as well as of others, is supported by an upright piece of stone, on which there are hieroglyphics.

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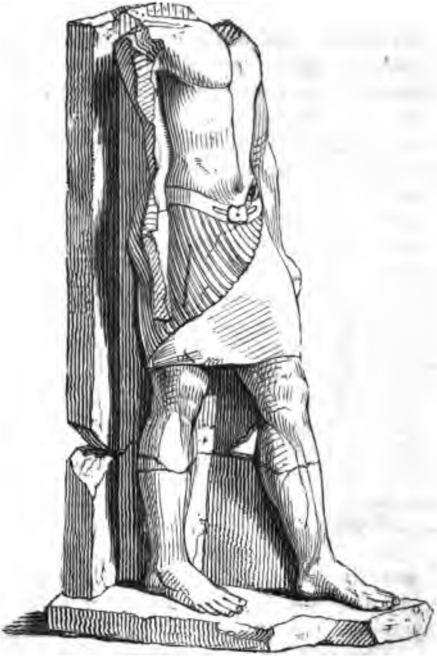
* i. p. 139. † ii. 37.

To determine what works of sculpture belong to the genuine Egyptian period before the country felt the influence of a foreign power, and what were probably the work of Greek or Roman artists, imitating the Egyptian style, is a task of some difficulty. We can only approximate to a judgment by a careful study of the characteristics of those which are admitted to be of undoubted Egyptian character, and by comparing them with others of a later age. The absence of hieroglyphics is not decisive, because these ornaments were occasionally omitted in works of high antiquity, and also retained as embellishments on works that undoubtedly belong to the period of Greek and Roman dominion. It is the style, therefore, and the expression of countenance which must decide, and particularly the costume. The bust, of which we have already spoken (not numbered), has a different kind of expression from the Egyptian figures, and one more approaching to the style of a Greek statue, and yet it partly preserves the Egyptian head-dress. No. 35, a mutilated figure of calcareous stone was found, according to the Museum Catalogue, by Captain Caviglia in a sepulchre near the pyramids. It is probably a Greek-Egyptian statue. The attitude and dress are Egyptian, but the execution is rather in the Greek style, being characterized by more freedom of manner than we observe in pure Egyptian sculpture. The dress consists of a single vest, tied with a belt, and in a knot just below the navel, and descending nearly to the knees in the usual fashion. The figure is attached to a rectangular column behind. This figure has been painted on the body, arms, and legs.

The following extract from Winkelmann will give some idea of his manner of criticism, and likewise point out some essential differences between the Isis of the Egyptians and the Isis of the Greeks, made in the Egyptian style.



No. 35.

"The collection* of the capitol contains two statues of grey basalt, and the villa Albani, another of the same stone, which may serve as the means of comparison, and give us an idea of the difference between the antient and imitated style. The face of one of the two first seems to vary a little from the ordinary Egyptian form, though the mouth is turned up, and the chin is too short—two characteristics of antient Egyptian statues. The eyes are hollow, and it seems likely that they were originally of a different material†.

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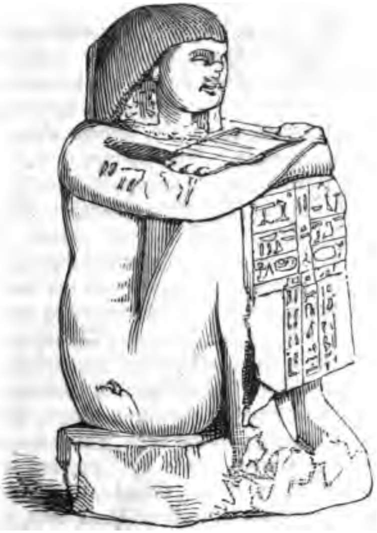
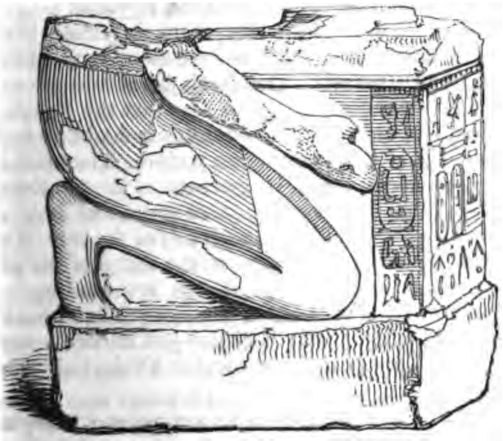
* i. p. 143.

† There is in the Museum a specimen of a Greek head



o. 46.



No. 27.

The face of the second figure approaches nearer the Greek form, but the figure generally is ill designed, and its proportions are too short. The hands are better than is usual in the antient Egyptian figures, and the feet are in the ordinary style, except that they are turned out rather more. The posture and attitude of the first and third figures correspond exactly to those of the most antient Egyptian statues: their arms hang straight down, and adhere closely to their sides, with the exception of a small opening made with the chisel between the arms and the body of the first. Both have their backs fastened to an angular column after the Egyptian fashion. The second figure has its arms more free, but yet not separated from the body; in one hand she holds a horn of abundance filled with fruits. Contrary to common usage, this statue has no column to support the back, which is quite free.

"These figures were made by Egyptian sculptors, under the dominion of the Greeks, who introduced into Egypt their gods as well as their arts, while on the other hand the Greeks adopted Egyptian usages.

"As to the dress of the Egyptians, we remark, in the three female figures which we have mentioned, a tunic, a robe, and a mantle. This fact is not at variance with what Herodotus tells us, who says that the Egyptian women had only one garment: this is doubtless to be understood of the robe or outer vesture. The tunic, by which we mean, the under garment of the two statues in the capitol, is disposed in small plaits, and descends as far as the toes, falling on each side of the base. This part of the dress is not seen on the statue of the villa Albani, because the original legs are wanting. It appears to have been linen, if we may judge from the number of small plaits: it begins just under the neck, and covers not only the bosom, but all the body down

with hollow eyes, evidently intended to receive some different material. This style of ornament was common among the Greeks.

to the feet. The tunic has short sleeves, that reach to about the middle of the upper part of the arm. This drapery, which is spread over the bosom of the third statue, forms very fine and almost imperceptible plaits; and these branch out from the centre of each breast in all directions. In the first and third statues the robe is exactly the same, and it adheres to the body, with the exception of some very closely folded plaits, which rise up. In all the three statues the robe only extends up as far as just below the bosom, where it is fastened to the mantle.

"The two ends of the mantle pass over the shoulders, and by means of them the robe is fastened to the mantle under the bosom; the extreme parts of these ends hang down below the knot and along the breast. After this fashion the beautiful Greek Isis of the capitol, and that of the palace Barberini, have their robe fastened to the ends of the mantle, which pulls the robe upwards, and makes the flexible plaits on the thighs and legs rise at the same time. One straight plait descends from the breast and between the legs, down to the feet.

"There is a slight variation in the third statue, that of the villa Albani. One of the ends of the mantle passes over the right shoulder, and the other under the left bosom, the two extremities being fastened to the robe under the breast. This is all that we see of the mantle; as the remainder, which ought to fall down behind, is covered with the column placed at the back of the figure. The second statue, which has no column at its back, has the lower parts covered with the mantle. The clothing of the two Greek Isis is fringed, like the mantles of captive kings, by which it was probably intended to denote a divinity introduced from a foreign country. This sort of clothing called Gausapa was shaggy on both sides, and it became a winter-dress among the Roman ladies as soon as it was introduced. From examining the drapery of all the figures of Isis, I have found that all, without exception, wear the mantle in this fashion, and that this style of drapery is a distinctive mark of this goddess."

It would not be difficult to find fault with some parts of this extract, though we believe the main part of it which refers expressly to the description of the drapery is correct, and will help the reader to form his judgment of the various figures here presented to him.

Humboldt has given a drawing of a piece of Mexican sculpture, which is rather curious from its bearing some resemblance in the style of the head-dress to that of some Egyptian figures. It is a bust of an Aztek priestess, of hard black basalt; the head-dress is fastened across the forehead by three contiguous stripes or bandages, to the lowest of which a series of pearls is attached. The ears are covered by the projecting parts of the head-dress, which assumes on each side of the cheek a full round globular form, and from which there hang down below the chin two rounded conical masses, marked by longitudinal incisions, and very nearly resembling the head-dress on the Isis *-headed pillar of Denderah. But in general it does not appear that there is much resemblance between the Mexican sculptures, as some have supposed, and those of Egypt. We have had the opportunity of comparing a great variety of small Mexican figures, made of baked clay, with the sculptures of the Museum, and we cannot state any general points of resemblance on which to insist as forming the basis of an exact comparison.

The sarcophagus-cover of black granite (now No. 90), already given (vol. i. p. 382) as a specimen of high relief, is no less remarkable for the distinctness with which it displays the dress. The height of the figure, without its head, which is broken off, is about six feet. Just below the elbow the right arm is

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* Or Athor, as some name it.

raised to about five inches above the level of the stone. On the right arm, five inches and a half above the elbow, we clearly trace the termination of a sleeve; the whole arm below that part is quite bare. The upper vest to which this sleeve belongs is again indicated by two slightly rounded elevations in the hollow between the chest and the right shoulder, while the hem is seen crossing the breast in a sloping direction. The same vest is observed descending from the left shoulder and crossing the breast in several plaits, so as to make an angle with the corresponding part on the right side. The effect of the greater tension given to this part of the garment is shown in the irregular folds of the left sleeve. This upper vest is clearly a kind of shirt with short sleeves; such a shirt, probably, as has been found on some mummies. Beginning at the feet just above the ankles we observe the termination of the lower vest, which we trace upwards along the outline of the figure without any interruption, until we arrive at the waist, where we perceive that it covers the lower part of the shirt, and is fastened round the body by a kind of belt or tie, hanging down in front. The points or vandykes, as they are now called, which we observe along the whole forepart of the lower garment, perhaps indicate that it opened in front; otherwise it would be rather a troublesome matter to get into and out of it. Though it is possible this under garment may be one of the forms of dress, either belonging to priests or laity, its contracted appearance at the bottom, together with the closed seam up the middle, gives it the appearance of part of a mummy-swathing. The dress of this figure agrees with what Herodotus* says, "each man wears two garments."

Winkelmann makes another division of Egyptian art, which includes such works as were executed in Italy (and we may add in Greece) by Greek or Roman artists, after the Isiac worship and the gods of Egypt had found a footing on European soil. It would be hazardous to make any assertion without supporting it by ample proof as to the time when Isis statues were introduced into Greece, but it is probable that the occupation of Egypt by the Macedonians contributed very materially to extend the forms of Egyptian sculpture, and the rites of that nation. In Rome we know that Egyptian superstitions were beginning to be received as early as B. C. 96, but not without great opposition. They were several times suppressed, and their votaries persecuted; until the second triumvirate, about B. C. 43, gave their sanction to the new religion by building a temple to Serapis and Isis*. New persecutions followed at intervals, until the reign of the all-tolerant, or perhaps all-superstitious and architectural Hadrian, whose love of building is attested by the numerous works with which he decorated various cities of his empire. The town of Antinoë, on the banks of the Nile, which took its name from his favourite Antinous, we have already mentioned. There are now two statues at Rome of reddish granite, (we believe in the Museo Pio Clementino,) which Winkelmann considers to be statues of Antinous, made in Italy, in the Roman-Egyptian style: there is also another, which he calls an Antinous statue, in the capitol. The first two are about twice the natural height, in the attitude of Egyptian figures, and with their backs attached to angular columns, which however bear no hieroglyphics. They have also other marks of the Egyptian style upon them, having a head-dress with two smooth bands, hanging down in front, and being made of a single piece of stone. Now, these being distinct marks of the antient style, what is there in the statues that tends to prove they belong to a later age? Winkelmann remarks in them, not the flat Egyptian breast*, but the high Greek chest: the ribs below the breast are clearly shown: the body of the statue possesses all the fulness of the Greek figures: the articulations of the knees, the muscles of the arm, the distinctness of the shoulder-blades, and the character of the face, all combine to prove Winkelmann's assertion as to the age of these figures. We are not, however, so ready to believe that they are representations of Antinous, as some other† connoisseurs do not perceive that resemblance between the Antinous of the Greek style and the statues which Winkelmann fancied he had discovered. These two figures seem in fact to have been intended for Atlantes, which will account for their having a kind of basket on their head; and to have been designed in the style of Egyptian Atlas figures to support an entablature, or rather to be attached to a pilaster. The figure in the capitol may be an Antinous; nor is it more surprising to find a statue of this personage in the Egyptian style than to find temples erected to his memory, and medals‡ struck in honour of him by so many cities.

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* ii. 36.

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* Dion Cass. xlvii. 15.

We must not omit to mention among works of Egyptian sculpture or of the plastic art, the heads that we see placed on various jars and urns, some of them containing bodies of sacred animals§. These jars are generally earthen, but sometimes alabaster, and even of green basalt (Winkelmann, i. 154), with a cover fitting tight, on the top of which we see the figure of a human head, but quite as often that of some bird or quadruped, generally painted.

Some of these jars have hieroglyphics on them, and some are without any. There is one in the Museum

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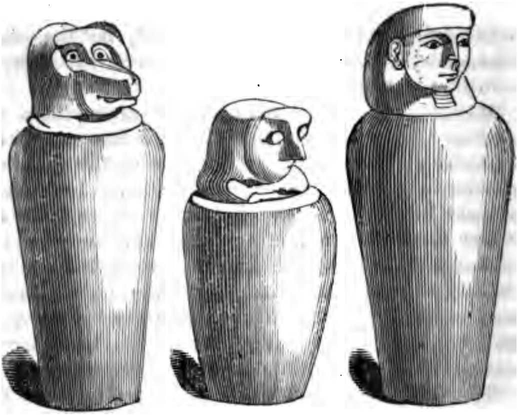
* But the colossal Memnon of the Museum has a full high chest.

† See note on Winkelmann, p. 151.

‡ Some of the medals of Antinous have his head on ~~the~~ re face of the medal, surmounted by the lotus.

§ See also note, p. 108.



Jars.

which is made of alabaster, and contains the body of an animal carefully wrapped up in linen cloth such as we see on mummies. There are also about it marks of the asphaltus or pitch, that was often used by the mummy-makers. An earthen jar in the Museum has a light blue vitrified glazing on it. Some of the Museum jars have hieroglyphics on them, and some are without. Three jars in the Museum have handles. (Shelf 105.) Egyptian jars of this description are commonly called Canopi, from a deity of the name of Canopus, who does not appear to belong to the antient mythology of Egypt, but was introduced at a later period*. We see the Canopus on the reverses of some of the medals of Hadrian, which numismatists class under the head of Alexandrine medals †.

The freshness of these earthen jars is surprising. Belzoni tells us that on his first visit to the pyramids an Arab Fellah (workman) offered to sell him an earthen vase, which contained a mummy-bird. The jar was so perfect that Belzoni thought the Arab was attempting to impose on him by selling a modern jar for an antique.

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* See the story of Ruffinus, quoted by Jablonsky. Panth. Egypt. ii. p. 143.

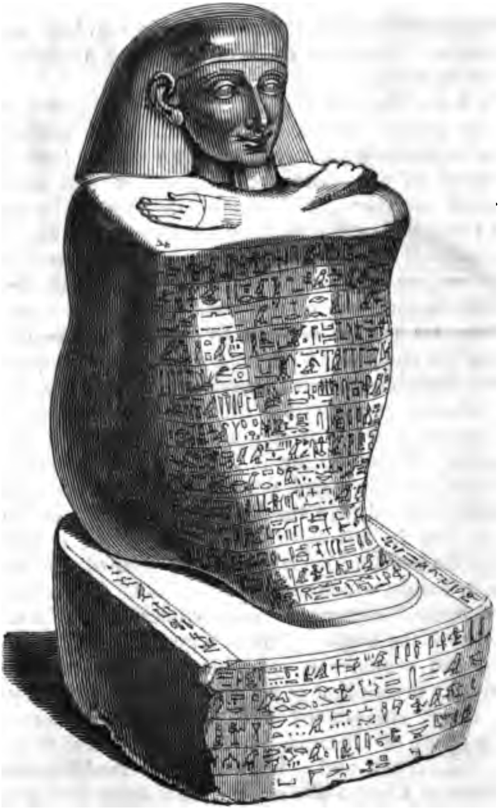
† The Canopi are on shelves 123, 99, 101, 102, 103, 105, &c.

We know that the Egyptians in former times, as well as at the present day, manufactured earthen jars of a porous quality, which were used for cooling the water of the Nile. Such jars are still made in great numbers at Kenneh, in Upper Egypt. This Canopus is perhaps, then, nothing more than a water-pitcher deified by clapping on it the head of Osiris or Isis, or of some sacred animal; but what may be the antiquity of this water-pitcher's claims to divinity, we cannot venture to decide. It figures among the signs of the Egyptian and Hindu zodiacs.

The Museum contains several specimens (No. 48, &c.) of what are sometimes called altars, which have a striking resemblance in appearance to the style of a Canopus. We may compare their general expression to that of a figure seated, with the legs drawn up, and the arms crossed near the breast, and resting on the knees; but in this figure (No. 48) nothing is seen except the head, which is completely formed, and the arms or hands, which are in slight relief. All the rest of the figure is compressed into a cubical kind of form rounded at the edges. They are generally highly polished and ornamented with hieroglyphics. In fact Ruffinus's description of a Canopus would suit pretty well these compressed and imprisoned statues:—"The figure of Canopus, which has very small feet, a neck contracted, and a large belly, is modified into the form of a water-pitcher, the back being smoothed all over." The back of No. 48 is quite smooth.

We are strongly inclined to conjecture that these figures represent persons in attitudes of meditation or penance.

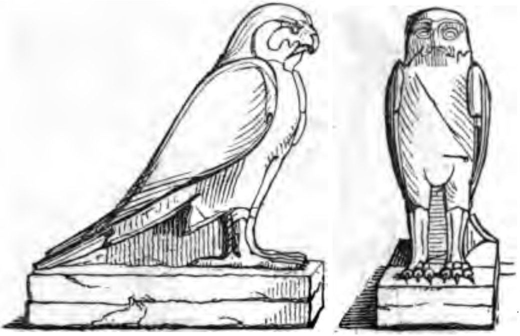
One of these altar-figures (B, not numbered) holds in the right hand something which very much re-

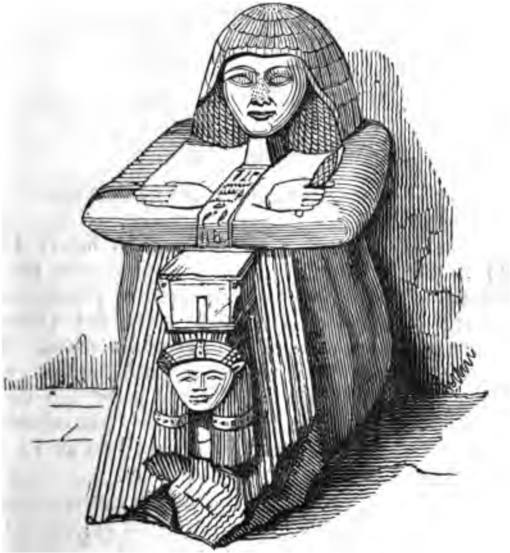


No. 48.

sembles a head of maize* or Indian corn, which, however, it cannot be, as that grain was introduced into Europe from Virginia. This figure has an angular block at the back. The accompanying prints

* See p. 29; and also see (p. 19) No. 46 from the Museum.



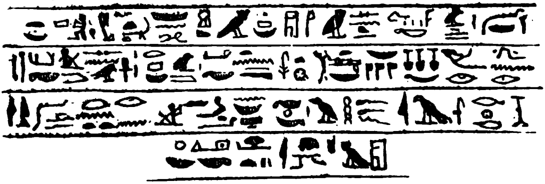


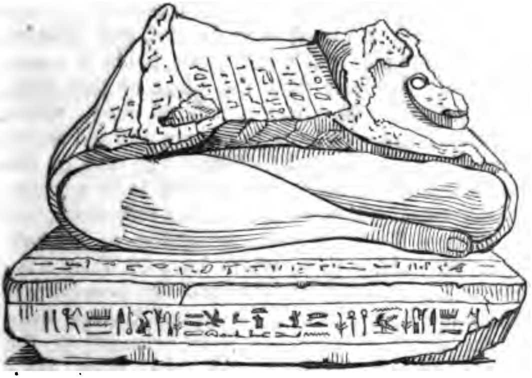
B.

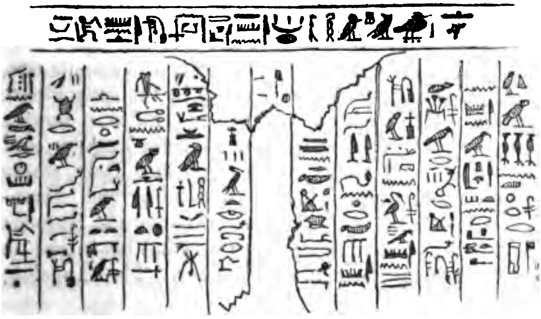
will give an accurate idea of these curious specimens of sculpture.

There is a fragment of an Egyptian figure (No. 51) in the Museum, which is remarkable for its attitude. The figure is seated on a plinth, with the legs crossed, pretty much after the Oriental fashion, or in the style of some Hindu statues. The lap and parts of the plinth are ornamented with hieroglyphics. In Daniell's drawing of the Caves of Kinneri, we see a figure in relief contained in a sunk pannel, with the legs crossed just as in this piece of sculpture.

Scarabæi, cut in stone, frequently in green-coloured basalt, or verd-antique, have been found in great quantities in Egypt, particularly in the tombs. Some have hieroglyphics on them, which are more rare; others







No. 51. (old No.)

are quite plain. In the tombs of Thebes, Belzoni found scarabæi, with human heads. There is hardly any symbolical figure which recurs so often in Egyptian sculpture and painting as the scarabæus or beetle, and perhaps scarcely any one which it is so difficult to explain. He is often represented with a ball between his fore legs, which some take for a symbol of the world, or the sun; the latter is more probable, as we do not well know how the Egyptians would figure out the earth, being unacquainted with its true form; except perchance they supposed it to be flat and circular. But the round ball which the beetle holds, is something much humbler than the globe of the earth, being nothing more than a ball of dung, which this diligent creature loves to fashion and roll about. He may be an emblem of fertility. The crab on the Denderah zodiac is by some supposed to be a beetle. Those scarabæi which we see in our collections, are not all pure Egyptian work, according to Winkelmann, particularly those which have on them a representation of Serapis and Anubis. In these Serapis has nothing Egyptian in his style, and, besides, there is some doubt whether this deity belonged to the antient mythology of Egypt. Yet his name would induce us to suppose, that if he was imported from Pontus by the first Ptolemy, he received at least an Egyptian name on his arrival; and this name may have belonged to some inferior deity of a remote age, who has been passed by unnoticed by the early Greek writers. Serapis had a most magnificent temple built for him in Alexandria by Ptolemy Lagides, and his fame spread over* Greece, and into Italy, where numerous temples attested the piety and liberality of his worshippers. As the Greeks and Romans built temples to this deity, so they cut his image on the sacred symbol, the scarabæus. The kneeling

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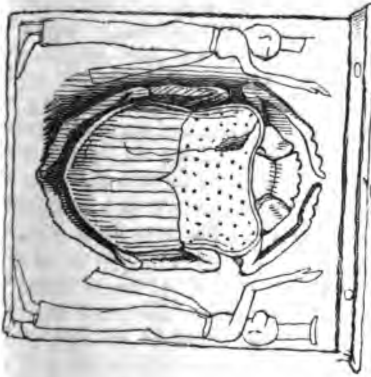
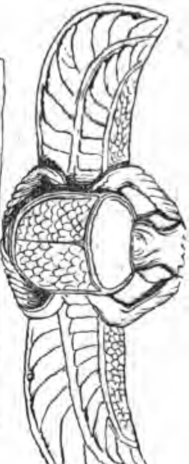
* See Pausanias, *passim*.





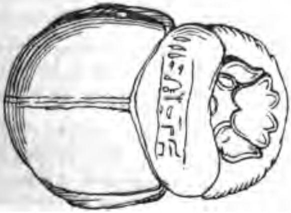


figure (No. 27) holds in front of it a kind of altar, ornamented at the front and sides with hieroglyphics; on the top of the altar, which is flat, a scarabæus is cut in high relief.

The British Museum contains a specimen of a colossal beetle, of a greenish-coloured granite, which was brought to this country from Constantinople by the Earl of Elgin. It is probably a genuine Egyptian work*.

Several of the large pieces of sculpture and figures in the Museum still remain to be described.

No. 12, commonly called an altar, is a four-sided block of beautiful red granite, diminishing somewhat towards the top. The height, as it now stands, is about five feet six inches. On the two opposite and longer sides of the block, are two figures in high relief; and on each of the opposite and narrower ends one figure, also in high relief. All the six figures are united by the hands. The single figures at the two ends are similar, being females, each with a long vest descending nearly to the feet: the head-dress hangs down as usual on each side of the chest, terminating just above the breasts; on the head is a disk contained within a pair of cow's horns. This figure is probably an Isis. The corresponding figures on the two long sides are also similar: one is a male, in very high relief, with remarkably fine rounded arms and chest; unfortunately, in one case, the leg that projects in advance of the other, and the head are gone; and in the other the head and the projecting leg below the knee. A strip of fractured stone on the face of the block, above the head of the male, marks the part to which the head

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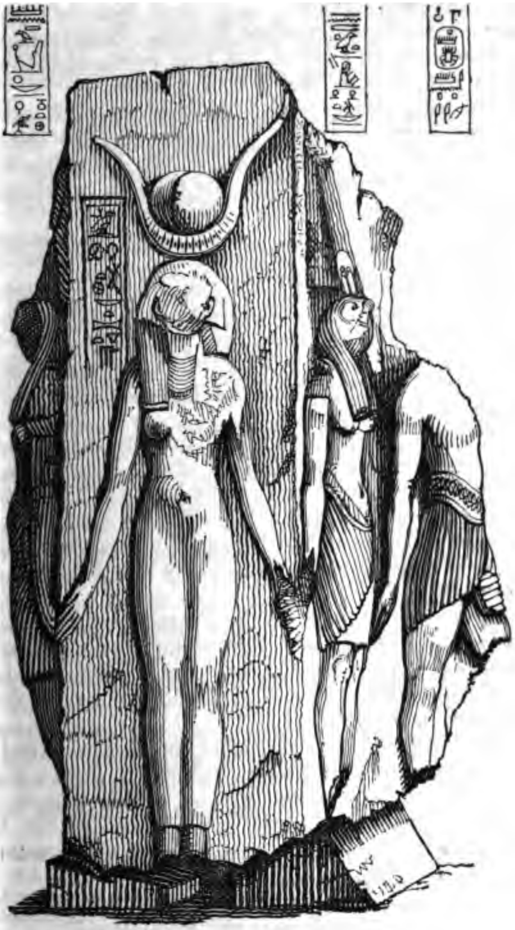
* The reader may consult the few remarks in K. O. Müller's Handbuch der Archäologie der Kunst, Breslau, 1830, on Egyptian Sculpture and Painting: and those in the work of Thiersch above referred to, Ueber die Epochen der Bildenden Kunst unter den Griechen, München, 1829, 2d edition.



No. 12.

and cap* were attached. The whole may be restored with probability from other standing figures. Next to the male, on each of the long sides, is another male figure, with the face of a hawk surmounted by the high flat cap, and a couple of serpents. The figures described are so arranged that each female is between two males: each group therefore consists of three figures, which are duplicates. On one long side the male holds by his right hand one of the female figures at the end, and by his left, the hawk-headed figure by his side: the same description applies to the other long side, if we change right into left, and left into right. This mass of granite and the figures are beautifully polished. There is a cartouche on each long side over the male head which has had the high cap, consisting of disk, comb, and beetle.

This block, which is no doubt improperly termed an altar, was found by the French among some ruins in the palace of Carnak, and is very incorrectly engraved in the Egypte (iii. 31). The French attempted to remove it, but abandoned the undertaking on account of the difficulty†. It was afterwards removed by Belzoni.

If we may judge from the French engraving, one of the male figures was entire at the time when their drawing was made; and the other was entire all but the head. The injury was possibly done in their attempts to remove it.

No. 51 ‡, which is placed at the back of No. 12, is a figure on bended knees, holding in front a sunk tablet containing three figures, which appear to represent the same subject as the groups of No. 12. In the centre is a male figure with the high cap; on his left a female figure with the disk and horns; and on his right the hawk-headed figure.

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* See the French Drawing, iii. 31.

† Descript. d'Egypte, Antiq. ii. 478.

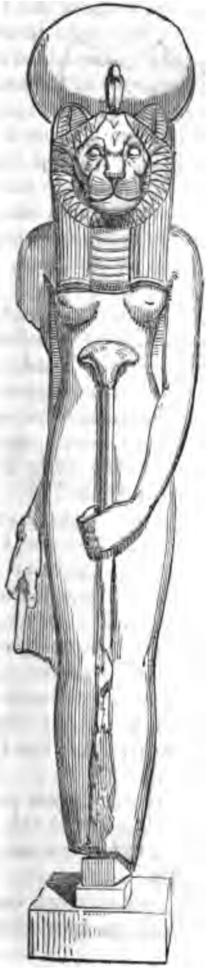
‡ Not to be confounded with No. 51, at p. 31.

This figure has sandals on its feet, which must be considered as made of a flexible material, for they are represented bending exactly as the sole of the foot is bent at the toes, owing to the kneeling attitude of the figure. The bottom of the sole is also marked with transverse lines, showing that it is composed of separate small parts, the whole of which are kept together by a rim of similar strips, running all round, and forming the margin of the sole. It is, in fact, a shoe of papyrus, or of some other flexible material, just such a shoe as there is a specimen of in the new and unarranged part of the Museum collection.

No. 63, a lion-headed figure (a female), is a beautifully polished specimen of black granite. The head is surmounted by a disk: the figure is seated, and the hands rest on the lap; the left contains the crux ansata. The margin of the vest, which clothes the figure, is very clearly marked with a border at the ankles and wrist. Just below the breast an ornamental margin or border encircles the body, and is met by a broader ornamental bandage, which appears like a continuation of the head-dress, and passes over the breasts to join the border below them. These two long bandages may be considered as passing over the shoulders and fitting in a similar way to the same border or margin behind, which will account for their appearing to come from under the lappets of the head-dress. The feet are bare. The height of the figure from the top of the disk to the bottom of the chair, on which it is seated, is about six feet six inches. The letters BEL are cut on the chair, at the back. This is one of the lion-headed figures dug up by Belzoni, at Thebes. The disk part has been broken by accident or design, but is now replaced. A rough space above the head, and on the centre of the face of the disk, indicates that the serpent was once there; as we observe in No. 62, a similar figure, of inferior workmanship. There is a great variety of these figures in the Museum, Nos. 37, 57, 68, 88, and two more not yet numbered. Nos. 41, 45, 49, 72, 76, 80, 84, are standing figures of the same kind, except that each holds in the left hand a kind of staff, or the stem of a plant, which, if we may judge from the top that surmounts it, may be the papyrus. Compare the head of this stem with the aquatic plants in the painting, No. 170.

No. 70 is a seated figure, holding in front of it another small figure, occupying the place often assigned to a tablet, and being apparently a miniature of the large figure No. 61. This seated figure, No. 70, possesses much merit. A fragment of a statue, which if it occurred among the Townley marbles would be called Greek, stands near the great beetle, and in a recess under the painting No. 169. This torso is a beautiful specimen of sculpture: the roundness of the shoulders and the chest can hardly be surpassed. Though it may not be Egyptian work, it is so far in Egyptian style, that the attitude is perfectly symmetrical, and the back is attached to a small block or pillar of stone, with hieroglyphics on it. A head (not numbered), which is placed behind the high-capped colossus, has a smiling countenance marked with individual character. This head is a very good example of the mode in which the beard-case is attached to the head-gear.

No. 8, a standing figure, presents some peculiarities, such as few persons would expect to see in an Egyptian statue: it is the figure of a large corpulent man, remarkable for its rotundity and fulness. The figure has a large head-dress, falling down on each side in front to the chest. Behind, the head-dress de-



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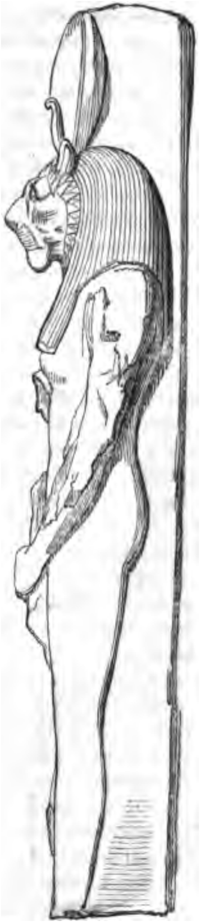

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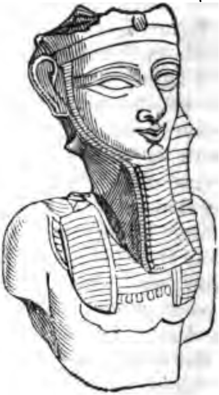

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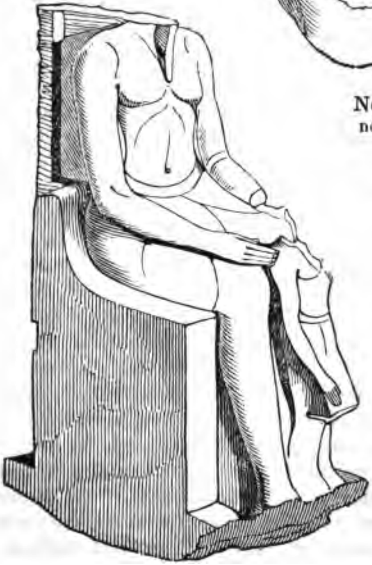
not numbered.



No. 70

scends till it is met by the rectangular column against which the back of the statue rests. The attitude of the figure is such, that without this support it would fall, the posture being that of a man leaning his back lightly against a support. In front of the figure is an altar or table, rising as high as the chest, and flat on the top. The altar is ornamented on both sides with reliefs, excellently cut; on each side are seven geese suspended by their legs, with their heads hanging down. The tablet or flat space on the top of the altar is mutilated on one side, but we may infer from the side which remains, that one hand of the figure was placed under each side of the flat tablet, pretty much as a man would hold a book in a reading-desk. It is not easy to make out the reliefs on the flat tablet, but they appear to be offerings of various kinds—a supposition confirmed by the geese sculptured on each side; and by comparing this with a new figure in the Museum (not yet numbered), which is so far similar to this, that it bears in front a tablet containing offerings, to the forepart of which tablet a water-pitcher or urn is attached, hanging down in front.

As this figure has a great paunch, the altar in front of him is so cut as to present the appearance of being hollowed out to make room for the unsightly protuberance of the statue. As usual with standing figures, the leg on one side is more in advance than the leg on the other side of the rectangular column at the back. On that side of the rectangular column on which the leg is most in advance, and where, of course, there is most space, a figure is cut in intaglio rilevato. The rectangular column contains several cartouches at the back. The height of the statue, with its pedestal, is about seven feet. In the plates of the French work on Egypt (ii. pl. 83) there is a drawing from the tombs of the kings at Thebes of a corpulent man, with a paunch very like that of the Museum figure; but the man in the drawing is standing erect without any support. He has sandals on his feet, turned up at the toes very like skates, and in his hands and on his head the symbol.

No. 61, a colossal figure of red granite, lately set up in the new Egyptian room, is entire to a point a little below the knees: it wears the high cap similar to, but not quite the same as, the cap of figure 15. The dress consists of a single vest, commencing below the navel and descending to the knees; the end of the belt, or tie, is marked by a considerable elevation; this indication is seldom omitted either in the sculptured figures or in the paintings. The attitude of this figure is perfectly symmetrical, except that one leg is in advance of the other. The two arms (one arm is much mutilated) descend on each side just in the same posture, and rest respectively on each side of the vest or apron in front. The mode in which the cap is attached to the pointed termination of the angular column at the back, will enable the spectator to understand the position of No. 15 in its complete state.

This colossal figure possesses very considerable merit as to the roundness and fulness of the body and limbs; and the face (which may be observed of many Egyptian statues) has an individual character; it does not resemble the face of any other statue in the Museum*. There are two cartouches on the chest, and one on each shoulder.

No. 5 is a singular group: part of it is mutilated. It consists of two male figures, a man and a boy. The man appears to be a Priapic figure; but we are unable to offer any satisfactory explanation of these figures.

Since the first volume of this work was written, large additions have been made to the Egyptian antiquities of the Museum. Among these are a great number of sculptured slabs, lately purchased at a sale of one of Salt's collections, the larger of which are now placed in the new Egyptian room, under the shelves 112, 114. To give a minute account of all those interesting monuments, would of itself require a volume; and the interpretation of many of them must at present be considered as at least doubtful. There are among them several specimens of the style of sculpturing in bas-relief, which deserve a careful examination.

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* See the remarks at the end of the chapter on Painting.

Several of these slabs exhibit specimens of bas-relief, which show a high state of art and a correct knowledge of its principles. The species of relief called intaglio rilevato, is described in vol. i. p. 384, &c. One of these new slabs in the Museum is worked on a different principle. (See under Shelf 112.) The outer margin and face of the stone forms a frame-work to all that is within it, but some of the figures, instead of being cut deep at the outline and rounded, as in the intaglio, towards the middle parts, have scarcely any rounding at all; and their surface, which is nearly flat, is on a level with the outer margin or surface of the stone. But in order to give the figures a relief, the stone is cut away round the outline to some distance, and the edges of the figures are left nearly rectangular. This is in fact very nearly the principle of basso-rilievo, as practised by the Greeks. In the relief here referred to among other figures, is that of a man milking a cow, while the calf is tied to one of her legs. In another part a calf is sucking a cow.

CHAPTER II.

PAINTING.

OUR knowledge of Egyptian painting is in a great measure derived from their tombs and mummies; and we shall accordingly have occasion to refer to the subject in a subsequent chapter. At present, we propose to consider the colours that were used, and the mode in which they were probably applied.

Sculpture and painting were closely allied, both among the Egyptians and in the old schools of Greece; and both arts were intimately associated with architecture. Sculptured and coloured figures formed in antient Egyptian edifices the decoration and the finish of the larger masses of the architecture which served as a frame-work within which they were placed. The edifices, from their massy forms and the magnitude of their component parts, were well calculated to produce a general impression of grandeur; and this was not destroyed by the smaller decorated parts, which were always strictly subordinate to the general design, and were not, like it, comprehended at a glance, but required to be studied in detail.

Painting, in the proper sense of the term, that of the representation of objects by colours on a flat surface, appears to be an art of less antiquity than that of sculpture. The Egyptians probably first coloured their reliefs and statues before they attempted to represent objects with colours on a flat ground. But, however this may be, paint was most extensively used by them, not only in making pictures properly so called, but in painting the surfaces of tablets and temples, as well as colossal statues and sculptured figures of all kinds and sizes. Indeed, an Egyptian temple, in its complete state, bedizened with so many bright unmixed colours, must have been rather a curious object, and would hardly perhaps have pleased the taste of modern times; though, it must be admitted that the effect of these colours under a brilliant sun would be very different from their appearance in such a climate as this. The pureness, permanence, and brilliancy of Egyptian colouring are the only qualities that we can admire; for they never apparently compounded colours, so as to produce a greater variety, from the simple colours. It has also been frequently remarked that they did not soften them off so as to form various degrees of intensity, or make any attempt at contrasts of light and shade. This is probably true as to the representation of human figures, which are coloured pretty much in the same style that a child paints uncoloured engravings, making one part all red, another all blue, and so on, without any softening of the colours at their common boundary. But in the representation of animals, as we shall afterwards observe, more care was taken in softening and blending the colours, so as to produce a better representation of nature.

The colours used in the painted reliefs and on the stuccoes are black, blue, red, green, and yellow; these are always kept distinct and never blended. Of blue, they used both a darker and a lighter shade. Red* was used to represent the human flesh, apparently from its being nearer the natural tint than any other simple colour; but many of their colours were evidently applied with a conventional meaning, for the representation of different races. The conquered people represented in the great temple of Abousambel, or Ipsambul, have yellow bodies and black beards. (Gau. Nubien, pl. 61.) In the grottoes of El Cab, the men are red and the women yellow. Black men also sometimes appear in the paintings. The five colours above enumerated seldom occur all in one piece or picture; but in this matter there is perhaps no general rule. The Nubian temples have often a very rich colouring, as in the case of one at Kalapsché, where yellow, green, red, and blue, have all been used in painting the reliefs in one of the inner chambers; and in some single figures in this temple we may observe all these four colours. (Gau., pl. 21.)

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* It is curious that Herodotus (vii. 69,) describes the Æthiopians, south of Egypt, as having one-half of their bodies painted with gypsum, and the other half vermilion colour.

The materials of which the colours were made would no doubt change with the improvements in the arts; and after the Macedonian occupation of the country, new colours, both vegetable and mineral, may have been introduced. But the tombs of the kings at Thebes may undoubtedly be considered as containing specimens of antient Egyptian colouring, as well as the painted reliefs in the oldest temples, and the colourings about the antient mummies. By a careful examination of these specimens, we may attain a very adequate knowledge of the materials used, and of the mode of applying them.

The most satisfactory conclusions that can be deduced from an examination of the antient Egyptian coloured substances, as far as we know, depend on the chemical analysis of Professor John of Berlin*. All the *blues* appear to be oxides of copper, a metal which is abundant in Egypt: the result of the analysis never showed any cobalt in any of the blues, but only oxide of copper with a small intermixture of iron. Belzoni's opinion on such a matter is of little weight; but as he was a careful observer, we may briefly state his reasons for supposing the blues to be vegetable colours, made from the indigo plant; though we are not at all inclined to adopt his views. "The present natives of Egypt," he says, "who manufacture indigo, make it up in cakes of the size of a sea-biscuit, in a very rough manner. Not knowing how to extract the colour from the plant without mixing it with sand, the cake glitters all over, the light being reflected from every particle. Of this imperfection the antient Egyptians could not get the better; for whenever there is blue on any of their paintings, which is evidently indigo, the same sparkling is to be seen as in the modern cakes."

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* See the appendix, p. 332, to Minutoli, Reise zum tempel des Jupiter Ammon, &c., & nach Ober-Aegypten in den jahren 1820, 1821, Von H. F. Minutoli. Edited by Toelken.

The *reds* may be divided into brown reds and brick-coloured reds. Minium, cinnabar, or native vermilion, was the substance with which the statues of the gods in Ethiopia, according to Pliny (xxxiii. 7), were painted. The brown colour often occurs on the faces of the figures painted on mummy-cases: the colour forms a thin lamina, which is easily detached, and is of the same shade all through. The colouring material is a brown red oxide of iron mixed with lime, and made tenacious by means of glue-water. The *greens*, such as appear on the stucco used in the catacombs at Thebes, are a mixture of a yellow vegetable pigment with a copper-blue, and held on by glue-water: the vegetable might possibly be the henné plant, which is still much used in the East for various purposes. A blueish-green colour, which is sometimes observed on Egyptian antiquities, is only the external colouring, which was originally a pure copper-blue, and has faded where the outer parts have been exposed to the atmosphere. The *yellows* are often very pure, and of a bright sulphur colour; from the chemical analysis of such specimens as were examined they appear to be vegetable colours. This yellow often appears on the mortar or plaster, forming a very thin coating. The *whites* were generally no doubt preparations of lime or gypsum. As to the *blacks*, there might be a great variety, such as those made from lees of wine, burnt pitch, from charcoal and soot. Besides the colouring substances already mentioned, there were no doubt various ochrous earths, red and yellow, employed by the painter. Madder also appears to have been used, at least for the reddish-coloured dye of the mummy-cloths, but owing to their imperfect manipulation, the red colour is not well separated from the yellow parts. When we consider the great variety of vegetable and mineral substances with which Egypt abounds, we cannot suppose that there would be any lack of colouring materials; nor need we resort to the conjecture that the mineral blues were imported by the Phœnicians who obtained them in Cyprus. Nothing but a very exact analysis of all existing Egyptian colours, compared with the materials which the country produces, can lead to any satisfactory and adequate results. We may only remark, that, in the infancy of the art, earthy colouring matters, which would require little or no preparation, and next, in order to them, some of the vegetable dyes, would be used before the more artificial preparations of the metals.

The following description of the mode in which the painted bas-reliefs were executed is from Belzoni's* account of the great tomb which he opened in the Bibân el Molouk, or tombs of the kings at Thebes. In this instance, the reliefs are cut out of the natural rock in which the excavation was made; but a similar process must have been adopted with bas-reliefs cut on any surface of stone. All the figures and hieroglyphics in this tomb are in bas-relief and painted, with the exception of one chamber, which Belzoni called the outline chamber, from its not being finished, but only prepared for the sculptor. The first process was to make the wall quite smooth, filling up the interstices, if any, with plaster. The outline of the figures was then drawn by some apprentice or inferior hand, in red lines, and corrected by the principal workman, in black. Then the sculptor chiselled out the form, cutting away the stone all round the outline, which would leave the figure standing out above the rest of the stone to the height of half an inch, or less if the figure was a small one. The angles of the bas-relief were afterwards rounded, so as to diminish the prominence of the object. The dress and the limbs were marked by narrow lines, not more than the thickness of a half-crown in depth, but exact enough to produce the desired effect. The next process was to lay on a coat of lime-whitewash, which in these tombs is so beautiful and clear as to surpass the finest white paper. The painter then completed his work, using the colours already described. When the figures were finished, a coat of varnish was laid on; or perhaps in some cases it was incorporated with the colour.

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* Belzoni, p. 238; or i. 368, 8vo ed.

The process for painting on the walls, both of the natural rock and constructed edifices, where there were no bas-reliefs, was pretty nearly the same*. The ground was covered with a thick layer of fine plaster, consisting of lime and gypsum, which was carefully smoothed and polished. Upon this a thin coat of lime-whitewash was laid, and on it the colours were painted, which were bound fast either by animal glue, or occasionally with wax. There is an example in the Museum of the colours being fastened with wax in a small funeral group of two figures. The whitewash† appears, in most instances, to be made of shell lime-stone, not much burnt, which of itself possesses sufficient tenacity without the aid of glue or other binding material. In the few instances where the whitewash in the analysis seemed to show a little glue, it is probable that it was imbibed from the glue in the colours which had been laid upon it.

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* Minutoli, p. 336.

† Prof. John, in Minutoli.

Besides stone, we find Egyptian figures painted on wood, and also on a basis of loam or Nile mud. With respect to those on wood, there is first a thin layer of whitewash or fine lime laid immediately on the wood, and on this the colours, being first mixed with glue-water, were placed by means of a brush. In other cases a more costly process has been adopted. The wood of the sarcophagus or coffin is covered with linen cloth steeped in glue; upon which a thin layer of purified chalk is fixed by means of glue-water. This again is covered with a thick coat of glue, showing a thready texture, and over this there is a layer of plaster, on which the figures are painted, either with pure glue-colours or with these colours mixed with a little purified chalk. No coat of gypsum appears, as far as we know, in the paintings on wood, though it was used, as we shall afterwards show, in making the masks for the mummy-faces.

It is generally said, that the art of mixing colours with oils was not known to the Greek artists; but it seems very unlikely that they should never have tried such a mode of fixing colours. As to the Egyptians at least, we can hardly imagine that they never used oil, which they made in considerable quantities*, for painting their reliefs and statues. On the painted figures of the Museum (No. 31) already referred to, it is easy to observe that there are different coats of paint. The outer coat on the face and the body of the male figure descends as far as the middle, and in some parts might be peeled off in flakes or coats, such as appear on a piece of wood or stone that has had successive layers of oil-paint laid on, with an interval of time between, sufficient to allow each to dry. A painted stone sarcophagus in the Museum (No. 39) has a coat of varnish over it, made of gum, or glue, or white of egg, or such other substance as would tend to keep the colours from the external air. In a valley, west of that containing the tombs of the kings, Belzoni found mummy-cases with painting on the inside quite fresh in appearance; and there was generally a coat of varnish: but whether it had been laid over the colours, or was incorporated with them, he could not decide.

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* Herod. ii. 94.

But the experiments of Professor John have removed all doubt as to one class of substances, at least, that were used for fixing colours, and making a varnish. On one of the sarcophagi belonging to Minutoli, the layer of glue was so thick as to enable him to make a satisfactory experiment with a small quantity. When heated in warm water, the mass of glue was dissolved, and there remained the thready texture above mentioned, swollen out into elastic membranous strips. The solution, on growing cold, became a trembling jelly, which dried into a horny translucent skin; the solution was immediately decomposed by alcohol and an infusion of galls. The swollen threads, under the influence of heat, dry and adhere together: they burn with a gluey smell. From the appearance of the glue and the threads, it seems probable that they are made out of hard hides, such as those of the rhinoceros and hippopotamus.

Many painted woods, such as the outer sarcophagi, are covered with a very bright varnish. This varnish is dissolved in alcohol with a yellow colour; by mixing water it is precipitated in masses; whence it appears to be a resinous substance, which probably had been dissolved in oil of turpentine before being used as a varnish.

The dryness of the atmosphere in Upper Egypt, combined with the invariable temperature of many of the tombs, has preserved the colours in almost their original brightness. In such a climate as England a few years would destroy them; and even in the British Museum, which is warmed in winter, many of the colours are gradually disappearing. So slightly are most of them attached to the stone, that they leave it on being touched with the moistened finger. The two figures (No. 31) are both painted. The male has the full head-dress, probably intended to represent the natural hair, hanging down on each side upon his shoulders: the head-dress is painted black, and the flutings or perpendicular grooves, which mark it on the sides all round, are still in some parts filled with wax, with which substance it is clear that the whole head-dress has been plastered. The grooves would seem to have been made to hold the wax better, in this instance at least. The body is naked to just below the navel, and accordingly the face, arms, and hands, are painted a dull vermilion red, intended to represent flesh colour: the eyebrows, eyelashes, and the beard, are painted black. The only part of the body that is covered with any dress is the part between the throat and the breast, where a series of circles, which seem to have been originally blue or green, represent the same ornaments which we see sculptured on most of the statues. Below the navel a single garment is tied round the loins, and runs down close to the ankles, fitting rather tight. The figure has sandals on like those on the statue (No. 26): the ankles and feet are painted red. It does not appear as if the lower vestment had been painted, with the exception of the strip of hieroglyphics which runs down the front, and seems to have been painted blue. The small white strip that rises above the top of the vestment is intended to represent the tie or knot which holds the garment together, as appears by comparing it with other figures: owing to the carelessness of the painter, this bit has been painted red like the rest of the body*.

The head-dress of the female, as usual, comes more forward in front, and hangs down as far as the breast: it also differs from that of the male in having a kind of ornamented broad bandage all round the head (but not covering the crown), from under which the hair or head-dress hangs down. The ears, as is generally the case in female figures, are covered: those of the male are exposed. This head-dress, which is black, has been smeared all over with wax or gum, which in some parts still adheres in pretty thick patches. It seems doubtful if it was intended to represent any part of the figure as bare, except the face, throat, and feet, which have been painted red. In another similar but inferior group (No. 29), the female is covered with a white-coloured vest from the neck to the ankles; but the remains of paint on the arms of the female (31) render it probable that in this instance the arms were painted red, and must therefore be considered as bare.

These figures (31) are curious, because it is evident that they have been painted with more than usual care. In some parts we may still observe, as we have already remarked, several coats of paint, one over another, and sometimes one colour on a ground of a different colour. The whole mass of paint on the upper part of the body is consequently very thick, and it has all been covered with a gummy or waxy glazing for the sake of preserving it. The female (31) holds in her left hand, resting on her lap, a lotus flower, painted blue.

A strip of hieroglyphics, running across the plinth at the feet of these statues, contains a single cartouche, presumed to be a name. The child is a male, with sandals on, and painted in the same style as his father, except that the whole body is red*, and the ornament about the neck is wanting: it has no hair or head-dress; the ears very large.

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* It is incorrectly represented as white in our drawing.

The two figures numbered 29, are a group similar to 31, but smaller, and of inferior merit: the paintings have been restored. The male appears to wear an armlet just below the armpit, and a bracelet round the wrist. The tie or fastening of his nether and only garment is indicated by a part of the white vest which encroaches on the red of the body, and is raised a little above it. The female has the left arm drawn across the body, and holds in her hand the usual sacred symbol. There appears to be no cartouche about this group.

In a third and similar group of figures, the male has no head-dress or hair: his head is clean shaved: he has also no sandals. The ornamental dress about the neck is much decorated: on the strip that runs down in front of the dress there is a cartouche. The dress of the female is peculiar: it seems to consist of one vest, which on the arms comes as low as the elbow, where it terminates in a green border; on the legs it descends, as in other instances, to the ankles. From comparing this with the female figure of No. 31, and observing that the latter has paint on the lower part of the arms, we are led to the conjecture above mentioned, as to the dress of this figure also descending as far as the elbow.

A coloured figure, of soft sandstone (already referred to, p. 15), in high relief, placed on one of the shelves (No. 114), is a curious specimen of Egyptian art. It is only entire to just below the navel, and in its present state is little more than two feet high. From the attitude of the fragment it appears to have belonged to a group similar to those just described. The features of this female are round and full, the nose well made, the lips, as usual in Egyptian figures, wear a smile, and the whole face decidedly bears the characteristics of a handsome race. The arms and body are finely turned. The head-dress hangs down in front so far as to rest on the breasts; it has much more the appearance of ornamented drapery than of hair, though it probably is the hair. The part which hangs down on each side next to the face appears to be the real hair, and the separate long locks seem to be confined in one mass in their lower part by a string or riband, somewhat in the fashion that we occasionally see at present. The part on one side is not so highly finished as that on the other. The lips of this figure are painted red; but the face has the dingy colour of the head-dress, though it is not so dark. The eyebrows and eyelashes are strongly marked with black.

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* This does not quite agree with our drawing.

Near the pillar at the top of the room is a mutilated funeral group of granite, the figures of which have the same attitude as those in No. 31. The margin of a vest is clearly marked on the chest of the male, running from the left shoulder aslant to the right breast. The nose of the male is gone, and a cavity is left so regular and smooth as to lead us to conjecture that it was once occupied by a nose of a different material from the granite.

In the Museum there are several specimens of Egyptian painting, which differ in some respects from any which we have yet described. We cannot learn from what part of Egypt they came, nor in what kind of place they were found; but it is most probable that they ornamented the vertical walls of a tomb*. The ground-work of these pictures is a mass of loam, containing chopped straw, several inches thick: the surface has been made quite smooth, and then covered with a coat of fine mortar, on which the figures are painted. Unfortunately, many of the colours have already suffered much since they were brought from Egypt, and it is to be feared that the colours are still peeling off, though all possible care has been taken to secure them by putting them in frames covered with glass. Faithful copies, however, have been made of these interesting pictures, which will no doubt last much longer than the originals.

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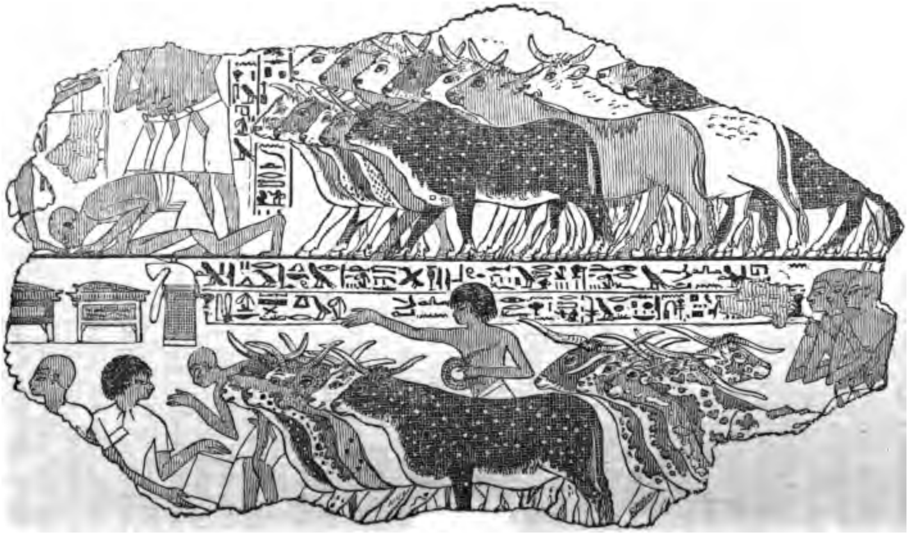
* Since writing this, we have been informed by a friend who is well acquainted with Egypt, that these paintings are

No. 169. This picture, as far as it is entire, consists of an upper and a lower compartment. On the left-hand side of the upper compartment a figure is kneeling down to kiss the feet of another. This kneeling figure is painted all red, and is therefore naked, with the exception of the white cloth about his loins. Three other figures near the kneeling one are dressed in the same style, and the tie of their garments, which we observed in the group No. 31, is here very conspicuous. The animals which follow are the best part of the composition: they all appear to be males. Some are red, some dappled, and others a dark mouse colour, softening off to white under the belly. In these animals we have an example of the colours not being left with sharp edges: they are carefully softened off with much skill and effect, and the labour of the small brush or pencil is very obvious. The animal in the foreground has the hunch of the Indian bull, nor is the colour very different from the specimens of the Indian animal brought to this country, only it is darker. The lower compartment is similar; but the animals are of a different breed, with long branching-out horns, such as occur occasionally in the figures

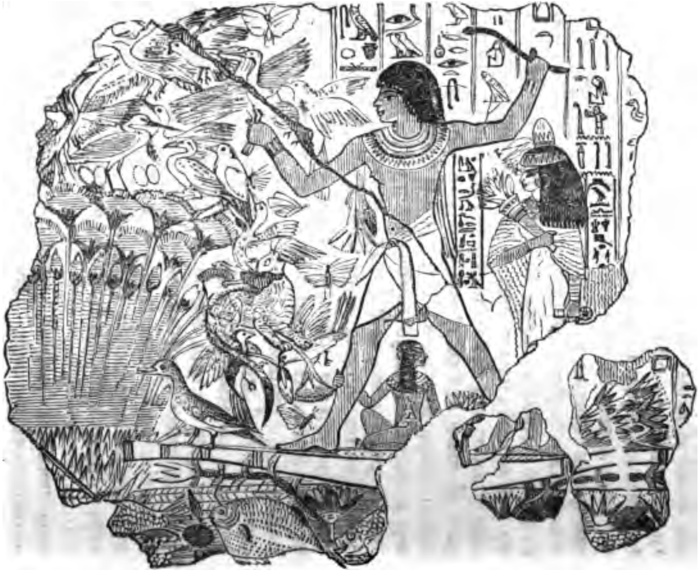
from the grottoes in the western hills of Thebes. The peasants there have of late years broken down many pieces of painted stucco from the tombs and sold them to travellers.



No. 169.

sculptured on stone. The standing figure has a rope in his left hand. The length of the bull in the foreground of the upper compartment, from the nose to the insertion of the tail, is about ten inches and a half.

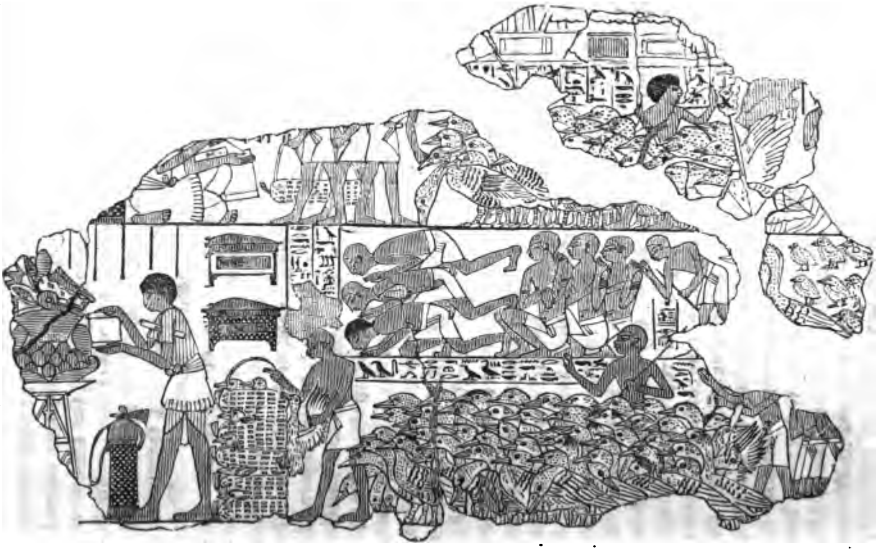
No. 170 represents a bird-catcher in a long canoe in the marshes: the water is represented blue, with aquatic plants growing in it, and fishes swimming about. The height of the male figure in the boat is about twenty-two inches; a female figure in full costume stands behind him, with an enormous ring by way of ornament in her ear; a small female figure is squatted between the legs of the big one, which we presume is the father. This picture seems to represent a decoy:, the fowler holds in his right hand three long-beaked birds, painted blue; and a goose, which seems to belong to the establishment, with red head and back, black tail-feathers, white breast and belly, and red legs, stands at the head of the boat, cackling, and apparently inviting his wild brethren. A cat, which seems to be in the service of the fowler, has seized one bird in his mouth, another with his fore-paws, and a third bird he holds between his hind-paws. The bird in the cat's fore-paws seems to have been disturbed while picking the head of one of the flowers. Several butterflies are fluttering about in the confusion; some birds have taken the alarm and are flying off. The difference between the feet of the web-footed and those of the other birds is carefully represented, the claws of the one, and the webbed feet of the other, being minutely delineated. The fowler holds in his left hand a curved instrument: the curved form is probably intended to show that it is some flexible material, and the thick end may possibly mark a weight or something of the kind. We conjecture it to be a rope or cord, with something heavy at the



No. 170.

end to bring down the birds with. The tie of the white cloth round the loins of the fowler is very clearly represented; the knot, and the irregularities caused by the vestment being drawn tight by the action of the figure, are indicated by red streaks: the two ends of the tie hang down in front. The tall water-plants on the left side of the picture probably represent the papyrus.

No. 171 consists of two compartments, about the dimensions of No. 169. The upper compartment is much damaged: on the left, is a figure squatted, probably the farmer or some superintendent, and two figures approaching it; another with his back turned towards them is feeding a flock of geese, all of which have red legs and beaks, but in other parts of their bodies there are varieties of colouring. The lower compartment appears to consist of two parts; but it is one picture: on the left side of this compartment is a figure apparently making an offering; but this is doubtful. This figure has a head of natural hair. His dress consists of two vestments: the under vestment is a shirt, the sleeves of which reach half-way down to the elbows, and the lower part of the same garment reaches almost to the knees. The other vestment is tied round his loins, with one of the ends as usual hanging down in front; and it is ornamented in the lower part by being cut or perhaps plaited. Behind this figure is a servant, who holds a goose by the wings, just as a man would now; he is going to put it into a basket, of which we see five, one above another, each with a goose or more in it. The figure that stands beside the flock of geese has a long rod in his hands painted red. At the right extremity, and in the upper division, of this compartment are a couple of geese and a flock of goslings, represented with great fidelity, as indeed all the objects in these pictures are, with the exception of the



No. 171.

human figure. There must have been a great demand for geese in Egypt, as they appear to have been a common article of food. The priests were not allowed to eat fish; but they were recompensed for this privation by a plentiful supply of beef and goose*. All the men are represented bald, except the figure already described as having bushy hair, and the foremost of the three who are represented kneeling. These figures offer a good specimen of Egyptian perspective, or rather the absence of it: they are all intended to be in a line, at right angles to the direction in which the spectator contemplates the picture. In such a case, the Egyptian painter puts the figures in a straight line, one *above* the other, on the vertical face of the picture, and consequently, in this instance, the two further figures appear to be kicking their heels in the air. The same remark applies to the two pieces of furniture, both of which are intended to be represented as standing on the floor, one behind the other, reckoning in the direction in which the spectator looks at them. The squatted figures are intended to be represented as behind one another, in the direction of the surface of the picture.

Goose and duck painting seems to have been very favourite subjects among the Egyptians. In Rosellini's plates (No. iv. M. C.) there is a picture, from a tomb at Thebes, which represents a continuous subject; it lies in one compartment, and is read from right to left. On the extreme right, five men are pulling a long rope attached to a net, in which a number of birds, apparently ducks, are caught upon a lake or on some water; a fifth man, a little in advance of the four, has also hold of the rope, and seems to be giving a signal to the rest, while a man, hid among some plants, (*papyri?*) appears also to be giving a signal and recommending care and silence. Further on to the left, are

* Herod. ii. 37.

two men carrying the ducks on their shoulders, and a little further, a man putting them into earthen vessels formed like Roman amphoræ, after the feathers have been plucked, and the legs cut off: the heads of the ducks were kept on, and in this state they seem to have been put into amphoræ, probably containing salt or pickle. In the extreme left of the picture are two men seated, one of whom seems as if he were rubbing something into a duck: one hand is closed as it would be if it were full of salt, and with the other he is raising one of the wings, apparently for the purpose of rubbing in the salt. The other figure appears to us to be plucking the feathers off the neck of a duck; but Rosellini describes him as sprinkling a handful of salt upon it. These two seated figures are placed near a frame-work formed by two upright poles, and a third placed across; from this cross-pole, the geese which are plucked and ready for the amphoræ, are suspended by the neck. All this illustrates exceedingly well a passage of Herodotus (ii. 77), referred to by Rosellini, who says, that "they eat quails, ducks, and small birds, without cooking them, having first put them in salt." This painting, according to Rosellini, is in the tomb of a royal scribe called Titi, who exercised his art in the reigns of Thutmes IV., and Amenof II., in the beginning of the eighteenth century before the Christian æra; and hence, if Rosellini's interpretation of the inscriptions is right, the picture is 3,600 years old.

No. 173 represents a male figure seated in a chair, cutting out some figure on a wall in the manner described by Belzoni*. The left hand holds a chisel;

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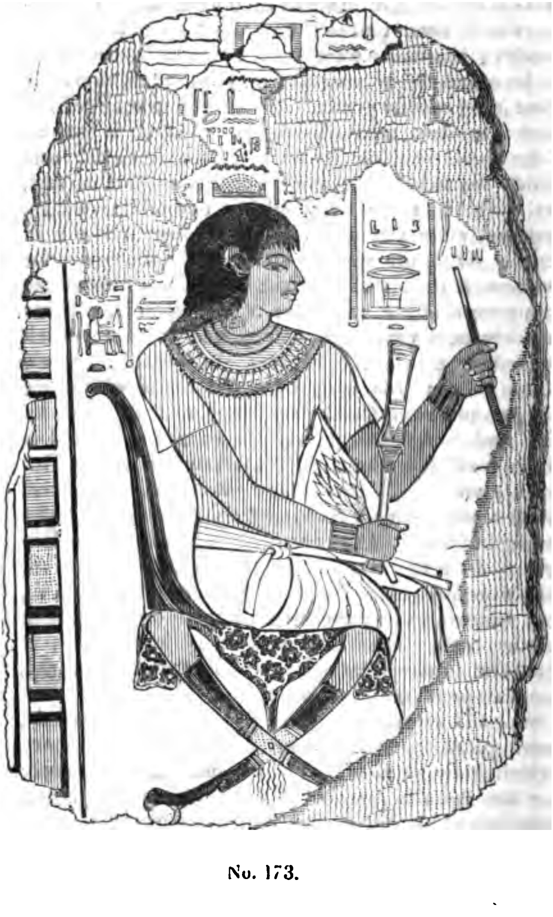
* This figure is explained by a gentleman well acquainted with Egypt, to be the representation of the person for whom the tomb was designed; and the object in the left hand he considers to be a staff or walkingstick, which is often seen in the tombs of Thebes. In the Museum this object is incomplete, as the drawing shows.



No. 173.

the right, a kind of mallet and brush: the height of the figure as seated is about twenty inches. The workman wears a thin shirt, coming down half-way to the elbows, and reaching below as far as the ankles; the ornamented work about the neck appears to be a part of the shirt. Round the loins the usual kind of vestment is wrapped: on the arms there are blue bracelets, marked longitudinally with narrow stripes of red. The chair is of that elegant form which we observe in other specimens of Egyptian art. The legs cross one another obliquely, and are fastened at the crossing-point by a pin, probably of metal. Only the two legs nearest to the spectator are represented, but both pieces which compose the frame-work of the upper and back part of the chair are delineated; the seat is covered with some spotted skin, perhaps that of a leopard. In Rosellini (M. C. lxxiv.) there is a drawing of a chair which shows, in the completest manner possible, how it was made. The seat is formed of two curved pieces of wood, placed parallel to one another, and united by cloth of some kind. Near each end of each of the curved pieces of wood, forming the seat, the legs are attached: the legs of the two corresponding ends of the wooden part of the seat cross one another, as represented in the Museum picture; but at the angle of crossing they seemed to be fastened by strings or cords, and not by pins. Each leg terminates in a serpent's head, the mouth of which is open, and bites a cylindrical piece of wood, which lies horizontally between each pair of legs that comes from the wooden pieces of the seat. Thus the chair rests on two wooden rollers, each of which lies in the same direction as the wooden frame-work of the seat. Drawings of various chairs (see Rosellini, M. C. xc., &c.) and couches show some most beautiful models of form, and a richness of ornament that indicates both great wealth and a high state of the arts.

Representations of the arts of painting and sculpture are common subjects in Egyptian monuments. Here we see workmen employed in painting cattle, for instance, with a paint-pot in one hand, and a brush in the other. In one case, a man is painting a male and female figure in a standing posture; the female has her left arm over her husband's shoulder, and grasps with her right hand the wrist of her husband's left hand: this may be a family picture portrait. In other places, we see workmen mixing paints, and smoothing pillars and sculptured figures, apparently by rubbing them with a stone. We see also representations of the making of colossal statues, with a frame-work of wood around them, consisting of several stages, in order that the workmen might work on different parts at the same time*.

No. 174 contains figures returning from the reaping-field, with sheaves of barley tied up. One man holds a young fawn in his arms, which is painted with great truth and spirit; another holds two rabbits by the ears.

No. 175†, which is divided into two compartments, consists altogether of females. Five in the upper compartment are seated, each with a blue flower in her hand. The head-dress is encircled by a broad bandage to hold the whole together, resembling that which appears on the sculptured and painted head-dress of the figure, No. 31. In this, as in other instances, a comparison of the sculptured and painted figures assists us in understanding both of them much better. The long ringlets of the hair are in these paintings more distinctly represented; but it seems doubtful if the whole black mass is natural hair. The figures are clothed to the feet; and the arms, where bare, are loaded with a profusion of yellow bracelets crossed with blue stripes. The ornamented dress about the neck, which is not unlike a tippet in its general outline, is highly decorated; the upper part of it is yellow and red, and the lower blue. A figure on the left, which is standing, has thrown one arm round the neck of her neighbour, and is offering her a flower to smell; the hands and arms of this figure in particular are drawn as badly as they can be. On all the figures, the nails of the toes and fingers are marked with white paint; the feet, hands, and all the bare parts of the body, being as usual of a brick-red

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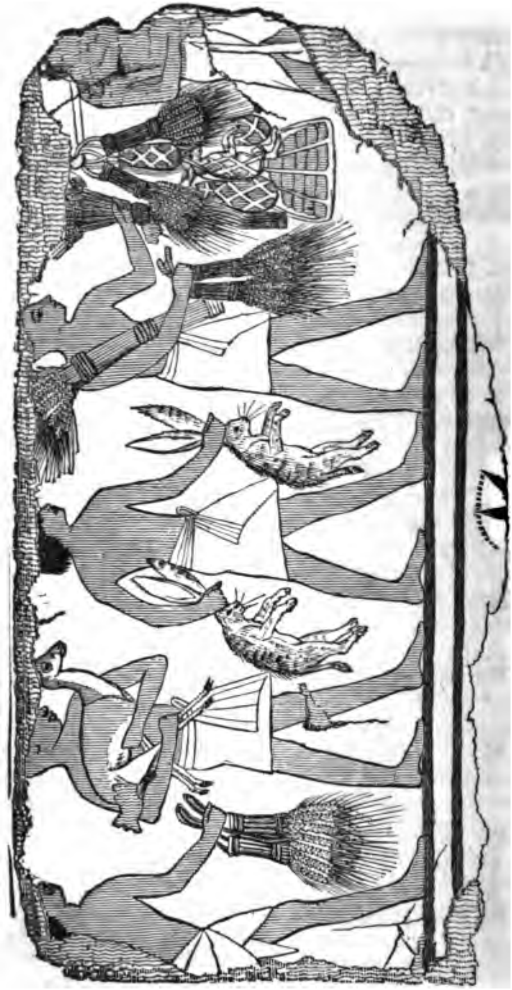
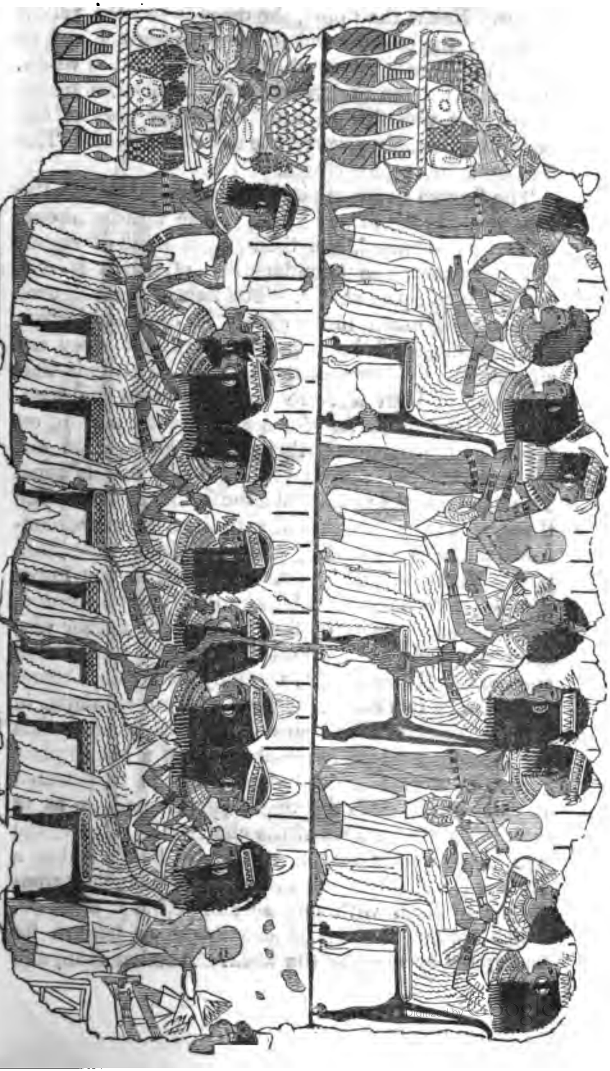
* See Rosellini, M. C. xlvi. xlvii. Plate xlviii. contains the picture of the Colossus being conveyed from the quarry, which has already been described from Minutoli's plate. See vol. i. p. 284.

† No. 175 is not drawn.



No. 174.

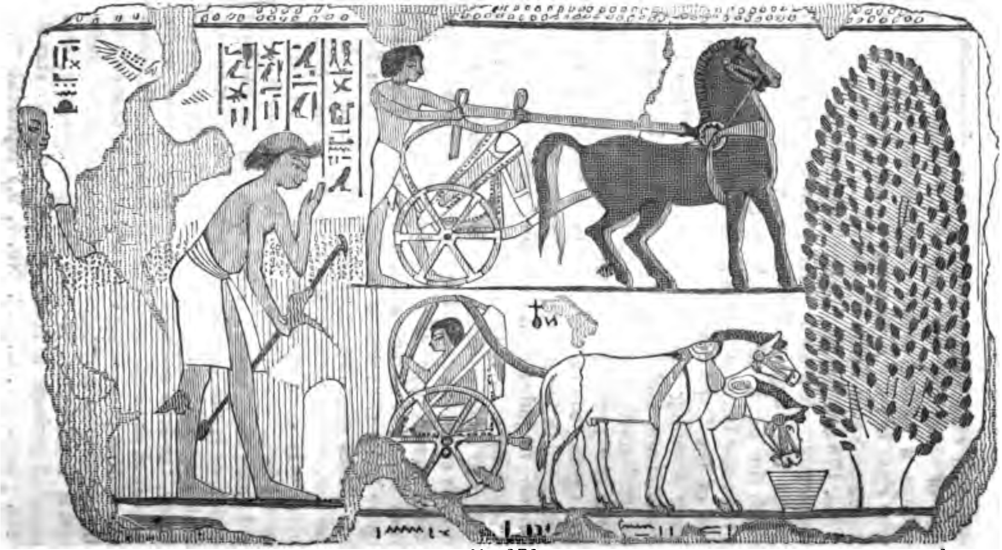


No. 181.

colour. Below the tippet, the dress is painted yellow and red; the colours end in loose straggling stripes about the knees, below which the vestment is white. As far as we can understand this, a coloured translucent vest was thrown over the upper part of the body and partially covered the under garment. The figures wear large earrings.

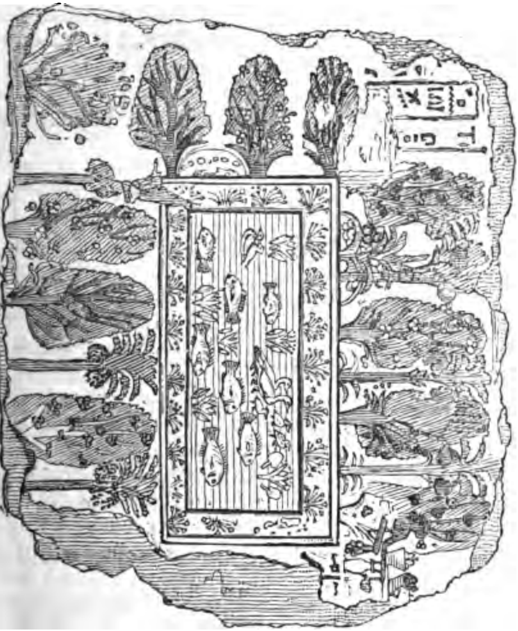
The figures below are making a musical party: the head-dress is the same as that of the figures above, is also surmounted, like them, by a kind of sugar-loaf ornament, the boundary line of which is red, and the upper part yellow. The hair of these figures is displayed much more clearly in distinct ringlets than in those of the upper compartment: they are all squatted, and represented in such an attitude that the soles of both feet are turned towards the spectator. Two of the females are apparently playing on a stringed instrument, though the strings are not marked, and a third is playing on a double pipe. The earrings are yellow, like those above; but unlike them, in not being marked with a series of red concentric circles: probably these earrings were thin plates of metal. The chairs or seats in the upper compartment have black legs, probably wood painted, and the other parts of the frame-work appear also to be of wood; they seem to be covered with stuffed cushions. Rosellini (M. C. xliv.) has given a representation of two cabinet-makers who are employed in making chairs. We learn from this picture, that the lion-footed legs are each made of a single piece of wood: a pair of ready-made legs is represented in this picture, with the upper part formed, so as to let into the frame-work of the chair-seat. One of the workmen, who is seated, appears to be polishing a chair-leg. Another leg stands upright, exactly coinciding in form with one side of a block of wood, which appears to be used as a model or pattern for testing the accuracy of the work. Another man, also employed on a chair, appears to be working with a kind of saw; but this part of the picture, which perhaps a cabinet-maker only can explain, is not quite clear to us. A carpenter's square is one of the implements that lie on the floor.

No. 176 consists of two compartments, but is only one picture. A male is driving two horses, of which that in the foreground is black, and the other, of which the head, tail, and legs, are partially shown, is red: the harness also is painted red. On the left side of the lower compartment is a corn-field: the figure standing near it has the crown of his head shaved bare, and the hair left all round it, like the old ecclesiastical tonsure. The two horses below, or the two nearer horses, are of a pale milk colour; one is going to drink or eat out of a vessel. A figure is squatted in the vehicle, with his back to the horses. The car, to judge from its shape, seems more suited for carrying sheaves than anything else, but still it is similar to those represented in battle scenes: the pole, in both cases, is attached to the car at the level of the axle-tree, and apparently is attached to the axle-tree, from which it curves a little upwards. The lower figure holds the reins in his hands, which run from the horses over the upper part of the frame-work of the car, and are easily traced to the hands of the driver. It is clear that they are the reins, from the curved form which they assume by hanging loosely, and from their being marked with red longitudinal stripes, as is the case in the reins of the other car. Both pairs of horses are males; but, in the lower instance, the tails seem as if they were shaved, and a tuft left at the end. There is a difference in the position of that part of the two cars which is shaped like the two sides of a triangle, from which we may infer that it is moveable, at least in the shorter leg, and intended perhaps to hold the sheaves down. Rosellini's plates (M. C. xliv. No. 4, 5,) represent men



No. 176.

employed in marking various parts of a chariot, among which we recognize the wheel and the pole.



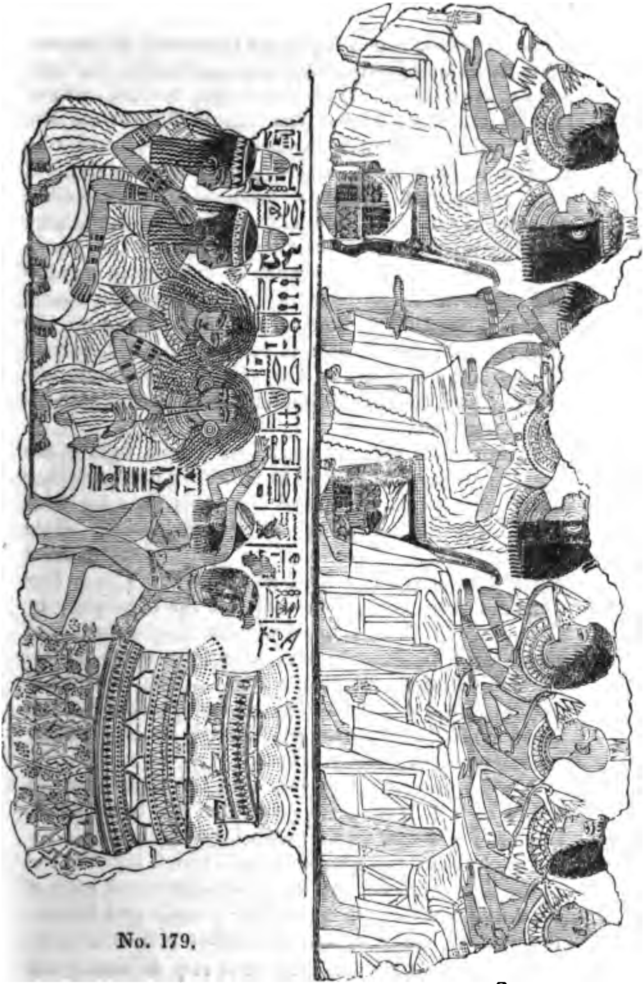
No. 177.

No. 177 is a garden, with a pond in the middle of it containing geese, ducks, fish, and the lotus: the colour of the water is blue, with zig-zag lines of another blue colour upon this. The birds are ill represented as to the parts in the water, which appear to be no more in the water than the parts out of the water; but the action of the legs is that of swimming. The pond is surrounded by a variety of fruit-trees, among which the date-tree is easily recognized:

the stem of the tree is painted brown red, the leaves blue or a blueish green, and the fruit red, or, in one instance, a dark brown red; a female in one corner of the garden is collecting the fruit. No attempt has been made at accurate delineation, and the picture is much more of a painted ground-plan than a picture: it is a kind of combination of a ground-plan and a bird's-eye view, and yet neither the one nor the other.

There is a picture of a garden-ground given by Rosellini (M. C. lxix.), which is laid out with great regularity and considerable symmetry. Indeed, if we may judge from such a picture as this, Egyptian gardens must have been planted with all the stiffness and formality of an old Dutch garden. In this instance, the centre part, which is a parallelogram, is occupied by four rows of vines, two rows of which are represented as trained to trellis-work; they are all full of fruit. There are four small rectangular ponds in the garden, on which ducks are swimming in the midst of aquatic plants. One compartment of the picture seems intended to represent a dwelling-house, but it is impossible to determine from it the details of the building. In some parts of the picture we see apparently two species of date-trees, planted in the same line, first a tree of one kind, and then a tree of the other, with a lower bushy tree placed in each interval between the date-trees. In other rows, we see the date-trees all of one kind. Every line on the picture which represents the position and direction of any set of objects is a straight line: the whole garden is a rectangle, containing within it none but rectangular divisions.

No. 179 consists of two compartments, an upper and an under compartment. In the upper some of the figures are seated on elegantly formed chairs with cushions; other figures are on chairs, the seats of which are



No. 179.

slightly curved, which is probably intended to indicate some flexible or elastic substance, as cane.* The two couples on the left side of the picture consist each of a male and female: the four seated figures on the right are all males, a bushy-headed one, and one with a shaved head, being placed alternately. It may be remarked, that the bare-headed figure on the extreme right has a different profile from the other: his lips are thick, and the expression of the countenance more resembles what is commonly termed the negro-face. A standing female figure, painted red, is presenting a bowl to the male figure on the extreme left: this female is naked, all but a narrow striped belt round the middle, yet she wears numerous armlets, and has the common tippet-formed ornament round the neck.

In the lower compartment four female figures are squatted, dressed like those in No. 175; one is playing the double pipe. A naked figure is dancing with great activity, something like a Bayadeer, while another naked figure appears to be playing on a musical instrument which has keys*. These four female figures are given with all their colours, by Rosellini (M. C. xcix.), but whether they were copied from some painting in Egypt, or from these figures in the Museum, we cannot tell. The two naked figures, however, are not given by Rosellini in the same picture; but are represented in No. 98 by themselves and without colour.

No. 180 seems to represent, in the central part, a table, on which we see a goose that has been killed, a quarter of a cow or calf, with fruit and flowers.

No. 181 has two compartments, which represent an entertainment. In the upper compartment each of the three seated pairs consists of a male and female: the male is marked, as in the other pictures, by his

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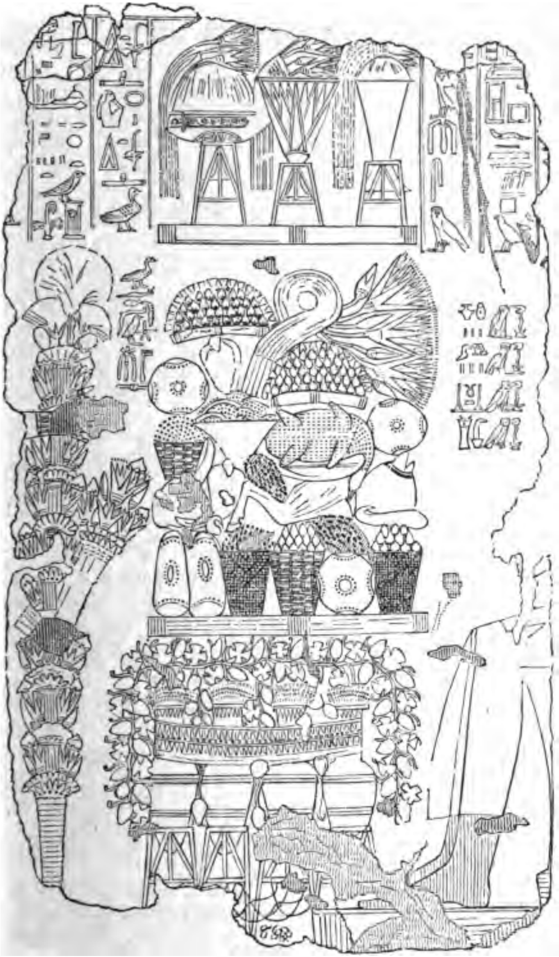
* This part of the interpretation is very dubious. Each must guess for himself.



No. 180.

bushy unornamented head-dress and his costume. Each female has her right arm round her male companion's shoulders, with the hand resting on his right shoulder, which is exactly the attitude in the small monumental groups of the Museum already described. The females are distinguished from the males by the head-dress, the rest of the vestments, and the fulness of the bosom, which, in the dressed figures, both of No. 181 and No. 179 is very marked. The standing female figure to the left appears to be presenting a drinking-bowl to the seated male figure; but the other two female servants hold in one hand a bowl differing somewhat in shape from the other, and heaped up apparently with something eatable. A male bare-headed figure, probably a slave, stands beside the female figure, which is in front of the second and third pair towards the right. The slave to the extreme right has something grasped in each hand, which looks like an apple, or some similar fruit, which he is presenting to the guest.

The lower compartment contains eight seated female figures: on the extreme right there is a seated male figure, and possibly there were more than one, but the picture is here imperfect. On the left side of each compartment is a table well stored with fruit and other eatables; among them we see a goose, which appears to have been a standing dish in those days. Under each table are large jars, not unlike Roman amphoræ in form, which were probably used for holding wine. Some of the fruit appears intended to represent bunches of grapes. Herodotus observes, that the Egyptians drink much wine, but that it is all imported. It is difficult to conceive how he could make so great a mistake*. We see the vine frequently represented in Egyptian paintings, and all the processes of gathering the grapes, treading them with the feet, pressing them in sacks to extract all the juice, and finally, pouring it into vessels*.

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* He mentions grapes as used in cooking, ii. 40.

It is rather curious that none of the figures in these pictures are represented with shoes on, though sandals appear on the male figures in the monumental groups. Possibly the shoes might have been taken off on entering the banquet-room. The usages of social life among the Egyptians would appear not to have forbid the presence of females at entertainments: the two sexes enjoyed the pleasures of the table together.

The recent work of Rosellini has made us acquainted with an interesting fact in the history of Egyptian art. The practice of painting portraits became common among the Greeks probably about the epoch of Alexander, and though portrait-painting must have existed much earlier, inasmuch as historical painting, with which it is intimately connected, did exist, we have not many notices of portraits painted before this date. We may therefore in general reasonably doubt the genuineness of statues, and heads on coins also, which are of a date prior to that of Alexander or his father, when viewed as likenesses of the persons represented. Such busts of an early date as were likenesses would necessarily lose their character when they were copied and multiplied in a later age. But it now appears that there are extant portraits of Egyptian kings which, according to the received interpretation, go as far back as Amenof, the first king of the eighteenth dynasty†. On examining the heads given in Rosellini's plates, i. to xxiv., it is impossible to deny that they are marked by individual characters, and that they are as distinct from one another as any heads can be. The heads are both male and female portraits, and all in profile. There can be little or no doubt that these heads were intended for portraits; and that they might be and probably were good likenesses will be admitted, we think, by any person who studies them attentively. Though drawn with strict regard to certain conventions—the face being given only in profile, the eye and ear ill placed and out of proportion, and in some cases the square beard being attached to the chin, as we see it in many statues—still the outline of the face, from the forehead to the chin, has a marked individual character, and indicates that it is intended to designate a particular individual. Most of these likenesses are repeated on various monuments; and those of the most distinguished kings, such as Thutmes IV., Amenof III., Ramses II. and III., and others, occur very frequently on numerous monuments in Egypt and Nubia which belong to different epochs in their reign. The portrait of the same individual, whether it appears frequently on the same building, or on different buildings of different dates, is always exactly the same, which fact Rosellini considers to be the very best evidence of these portraits being faithful likenesses. But if his statement, as to the unvarying uniformity of each king's head be true, it is evidently a fact that rather makes against his conclusion, since some of these kings must have looked very differently at different times in their life. It proves that, supposing each king to have had his portrait taken, this one likeness was religiously maintained and never altered: but the same conclusion, it must be observed, would follow equally from the supposition of each king's head being a mere conventional form, and from the fact of this form being always the same for each king. The plates themselves, however, as we have already remarked, bear the strong characters of individuality. It is not improbable, that the likeness was taken on the king's accession, or at some great epoch in his life, and, as we have seen from Rosellini's remark, the likeness was never changed. The medals of some of the Roman emperors, on the contrary, present us with different heads, corresponding to different epochs in their life.

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* See Rosellini's Plates, M. C. xxxvii., xxxviii., and xxxix., where there is a drawing of a vine apparently trained to some trellis-work.

† Rosellini, tom. ii. part i. p. 476.

Each king and queen has the name and title placed near the likeness, generally in a couple of cartouches, though in some cases there is only one. Rosellini remarks that a family likeness appears in those kings who are of the same family, which observation is certainly true of the two kings whom he names respectively, Thutmes IV. and his son and successor, Amenof II*.

Fig. 12, in plate iii. of Rosellini, represents Amenof III., whose name appears on the great colossi seated on the plain of Thebes and on the seated colossal figure, No. 21, in the British Museum†. We have thus the opportunity, as Rosellini suggests, of comparing the likeness of Amenof, from a painting in his tomb in the Bibân-el-Molouk, with one of his statues now in a European collection, and we find there is no resemblance at all between them. This fact, of which any one may convince himself who will compare the two, inclines us to discredit the broad assertion as to the unvarying likeness of the statues and portraits of the same king. This is one of the few figures in Rosellini's drawings that have the rectangular beard attached to the chin, which he considers, we believe correctly, not to be the natural beard, for that was shaved close, but an artificial beard, or rather beard-case, the symbol of manhood.

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* Plates, M. R. ii. iii.

† See vol. i. pp. 263, 277 (old No. 38), where a front and a side view are given of the statue.

He also observes that the same head on the same monument is sometimes represented with this sign of virility and sometimes without it, whence we may perhaps conclude that this artificial beard was not worn, but was merely placed on statues and sculptured reliefs, to indicate the male character. It is, however, quite as likely that it was sometimes worn, as it appears to be as much a part of the dress as any other part. We see, from numerous statues in the Museum and elsewhere, that it was held to the chin by two thin bands which passed along the jaws, and attached it to the cap on the head or to the hair. We have already (vol. i. p. 288) described a colossal head in the Museum, on which there are distinct representations of hair traced on the chin, but whether intended to represent a portion of the beard that is left and confined in a case, or an artificial beard attached to the chin, is difficult to say. A head, No. 64 in plate xv., from the small temple of Abousambel, called by Rosellini that of Ramses III., the Great, has a long piece of twisted hair hanging down from the chin, without any indication (in Rosellini's drawing) of its being attached to the head-dress or hair in the manner just described. This head is further remarkable for a long twisted lock of hair, which, commencing just above the ear, passes round it in a curve, like a ram's horn, and terminates near the chin. This is the horn of the Ammonian ram, which we see on the coins of Alexander and of Lysimachus, and which, as Rosellini justly remarks, is now shown not to be a Greek device, but an imitation or adaptation of an Egyptian design, which, as the author observes, is less elegantly adapted on the Greek medals than on the Egyptian originals. Rosellini has given (Plate vi. No. 22) another portrait of the Ramses, whom he calls the Great, from one of the great colossi in front of the rock-cut temple of Abousambel. In this instance the two portraits are perfectly alike, and each presents exactly the same tranquil and noble countenance. The figure in the Museum, commonly, though incorrectly, called the younger Memnon, bears a strong resemblance to the figures just referred to in plates vi. and xv. Mr. Wilkinson attributes the temple of Abousambel to Ramses II., whom he calls Ramses the Great; and he also calls the head in the Museum (which bears the same name) that of Ramses II. The point in dispute as to the two Ramses cannot perhaps be easily settled; but whether the head in the Museum is of one Ramses or another, it is, if not the same as those in the temple of Abousambel, at least the head of one of the same family.

Many of the portraits in Rosellini are from sculptured bas-reliefs, all of which are or have been once painted: some are from statues, and others from paintings on the walls of tombs. No. xvi. of Rosellini's plates represents some of these Egyptian portraits coloured: No. 1 and No. 2 of xvi., from the interior of the great temple of Abousambel, represent Ramses III. and his wife, in a standing position, making offerings to the gods. The figures are cut in low relief, which is painted. The flesh of the king is painted red, the usual colour; and he wears a long greenish vest, which covers his arms almost as far as the elbow, and comes down to his ankles. This vest is indicated to be nearly transparent, by the form of the limbs and the body being shown distinctly through it, and by the artist having softened the red colour of those parts of the body which are covered by this thin vest. The hem of the upper part of the vest has a border of red fringe in several parts. The king wears a peculiar kind of high broad-topped helmet on his head, with the uræus, or sacred serpent, the emblem of regal authority, which is seen on several statues in the Museum, rising in front. The king is close-shaved, and only a few of the hairs of the head appear from under the helmet at the ear. Two red bands or ribands attached to the back part of the helmet fall down upon the shoulders. The colour of the helmet is a blue ground with yellow spots on it, and the border is marked yellow. Rosellini conjectures that it was made of polished metal, studded with gold, which is not unlikely. A large collar of necklaces, forming a number of concentric circles, surrounds the neck and covers part of the chest: this kind of ornament constantly occurs both in statues and paintings, and seems to have been worn generally by the Egyptians. Numerous specimens of such necklaces, many of them very rude in workmanship, are in the possession of Egyptian travellers and in collections of Egyptian antiquities. The vest is confined by a belt or cincture tied tight round the waist, which Rosellini conjectures to be inlaid with precious stones: the agraffe or clasp which fastens it in front is a lion's head. The cincture hangs down in front, growing wider towards the bottom, nearly in the form of the apron or lappet which we see represented in the colossal standing statue in the Museum (No. 61); and at the bottom of it two uræi raise their heads. Besides this cincture there is a long sash tied round the waist, part of which hangs down nearly as far as the bottom of the vest. The king has yellow sandals on his feet, of nearly the same form as those which we observe in a statue (No. 26) in the Museum collection: he holds also in the left hand a triple yellow censer, in which the flame is painted red, and in his right hand a kind of sceptre, painted yellow. Rosellini conjectures that the yellow colours represent gold, which is highly probable, or, in this instance, perhaps, gilding.

The female is painted a light yellow, a conventional colour, intended probably to denote merely a lighter complexion. Rosellini observes that yellow is the colour appropriated to all women, which is not true, as the paintings in the Museum show, and also some of his own drawings. We find a dirty yellow used to represent men also, but men apparently not Egyptians, in the fight painted in the great temple of Abousambel*. The queen is holding up in each hand two yellow (gilded) instruments, which, with Rosellini, we may provisionally take to be sistra, though we doubt if they are. On her head is a yellow cap in the form of the vulture, the emblem of maternity, and this is crowned with a modius, regularly marked with various colours. Her long black hair, which is confined beneath the head-dress, falls over her neck, and hangs down from her shoulders almost as far as her waist; it is braided in long chains or ropes, as we see the hair represented on some female figures in the Museum pictures, and also on the painted figure in high relief (Shelf 114). The necklaces, green vest, and sandals, are similar to those of the male: the vest is tied round the waist by a single red sash, the two ends of which hang down in front nearly as far as the knees. She has two bracelets on each arm; the two on each arm are different from one another, but the corresponding bracelets on the two arms are alike. We have thus minutely described these two figures, because they are perhaps the best extant specimens of the dress of the antient sovereigns of Egypt, and are in this respect more curious than any other monument of antiquity that has been preserved. It results, also, from a comparison of the statues and the paintings, that we are much better enabled to understand the character of the dress than if we examine only the statues or the paintings—a fact of which any one may convince himself by examining the specimens in the Museum.

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* Gau's Nubien, pl. lxi.

Plate xxii. of Rosellini, which contains five draped and two other female figures, is one of the most interesting that can be imagined. The head-dresses, both of the males and females, vary considerably; but there appears to be a kind of long vest, which, with some modifications, was in common use among the females. This vest has a white ground marked with parallel longitudinal stripes, exactly resembling a printed calico, the manufacturing of which, as we shall afterwards show, was a branch of industry probably known to the antient Egyptians. These vests are fringed in parts, and in some are very neatly hemmed at the edges. In this plate the colours of the hieroglyphics are given, just as they appear in the original cartouches which contain the names of the females. Rosellini remarks that the hieroglyphics are characterized by their peculiar colours where the paint is preserved, and that these colours must have often served to indicate more clearly the objects represented. Some of the figures in this plate have sandals and others are without them.

Fig. 22 in this plate is remarkable for the richness of the dress, the lower part of which terminates in a fringe, above which there is a series of rows of beautiful needlework, running all round the bottom of the vest, and continued nearly as high as the knee. Such a dress as this cannot be well described: the picture is well worth looking at, and it is one of the most decisive proofs we could have that the arts had made great progress in Egypt. Figs. 23, 24, in this plate, are remarkable for being painted of a pale delicate yellow, lighter than that of the other female figures in this plate, which probably was done to indicate a lighter complexion. Both of them are naked, with bracelets on their arms and anklets on the legs: the head-dress of No. 23 is both curious and beautiful. Rosellini says that these two figures are *pallades* (παλλάδες)*, females devoted to the service of Ammon, not unlike the Bayadeers of India.

Rosellini has also given a set of portraits of the Ptolemaic kings and queens of Egypt from the monuments, which are the more interesting as they belong to an historical period of more certainty, and are also known to us by their numerous medals. The Ptolemies on the Egyptian monuments always appear in an Egyptian dress, while their medals, as far as we know, are altogether in the Greek style. Rosellini says that he has found the portraits of all the Ptolemies and their wives, except those of Ptolemy Soter (Ptolemy I.), Dionysius (he means Ptolemy IX. Dionysus), and Alexander I. The first king that he has given (following the order of the plates †) is Ptolemy III. (Euergetes); and his successor Ptolemy IV. (Philopator), with his wife and sister Arsinoe, from the pronaos of the temple of Edfu. These heads of the Ptolemies and their queens, though dressed in the Egyptian style, are not difficult to distinguish from the Egyptian kings, by the greater roundness of outline in their profile, and by faces of greater fulness. They do not, in our opinion, denote any decline at all in Egyptian art at this date, though this notion of a decline in the Ptolemaic age seems to be a common opinion: on the contrary, they possess to a certain extent more natural ease in the outline and form than belong to some of the old Egyptian works of art. Rosellini remarks that the profile of Philopator bears considerable resemblance to the head of one of his gold medals published by Visconti; and that the head of Arsinoe is not much unlike one of her gold medals‡. We are not disposed to deny that the heads of the Ptolemaic kings in Rosellini, whether portraits or not, were intended to mark the individual kings—a fact which appears clearly enough from the different character of the faces, and from the circumstance of each head being accompanied by a pair of cartouches, one of which always contains the same symbols (with only one variation in one instance) for the name Ptolemy: the other symbols, we may infer, represent their distinctive titles. In this respect the pictures are more valuable than some of the Greek medals which bear simply the inscription "Ptolemy," without indicating the individual. Rosellini remarks (page 467), that the resemblance of the Egyptian portraits to the heads on the Greek coins is a proof of the accuracy of the Egyptian portraits of the Ptolemies, in doing which he asumes that the Greek head is to be taken as the type and standard by which to judge of the Egyptian. But like a zealous partisan, who does not see the meaning of his own arguments, he speaks as follows with respect to the head of Ptolemy Philometor (plate xxi. No. 75), which is taken from the temple of Ombi, and possesses a singularly feminine but pleasing character. "The physiognomy of Philometor does not correspond well with the exaggerated likenesses of the two medals which Visconti attributes to this king; on one of which only (which differs considerably from the other) the surname Philometor* is read. Every person will be readily convinced that the true likeness of this king is preserved in the Egyptian portrait." But the Egyptian portrait is that of a very young man, and Philometor reigned thirty-five years; it would be absurd, therefore, to expect to find a young portrait like all the heads of the medals, which might vary very much at different epochs of a king's life, as we know to be the case with the heads of several of the Roman emperors. The portrait of Ptolemy VII. (Euergetes II.), commonly called Physcon, or Big Belly, confirms the description given of him by Justin*, that he was ugly in face, short, big-bellied, and more like a beast than a man. The face is that of a fat, sensual man; and though his portrait is only a bust, one would infer that the figure is that of a short man: still the face is not ugly, but bears some resemblance to that of his handsomer elder brother Philometor.

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* See Strabo, 816, on the παλλάδες. † Plate xxi.

‡ Iconagrafia Greca, vol. iii. tab. xiii. 6, 7.

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* Visconti, Icon. Grec., tab. xiv. 2, 3.

In plate xxii., No. 82, we have the portrait of Cleopatra, a handsome and pleasing countenance, totally unlike what we see on her medals—a fact which Rosellini admits. But this difficulty is easily got over by declaring the medal to be of no value as a portrait, though, as we have already seen, he founds, in the first instance, the argument for the genuineness of the portraits on their resemblance to the medals, which he takes as the type and standard. Pl. xxii. No. 83, is the portrait of Cæsarion, the son of Julius Cæsar and Cleopatra.

Plate xxiv. Nos. 34, 36, contains the coloured full-length figures of Ptolemy II., Philadelphus †, and his wife Arsinoe, from the sanctuary of the temple of Philæ; but in vain we look for any resemblance between the insipid painting from Philæ and the finely-formed but haughty countenance of the beautiful Arsinoe of the medals ‡. In plate xx., No. 68, we have a portrait of what is considered to be the same Arsinoe, indicated by the same cartouche, with the appropriate Egyptian head-dress, representing the vulture; her hair, as far as it is seen, hangs down in two thick masses on her shoulder and bosom respectively: she has two necklaces round her neck and chest. This profile bears a striking likeness to that on the medal of Arsinoe, to which it is in no way inferior, either in beauty or point to execution. It appears to be a younger portrait than that on the medal. There seem to be no means of determining whether the medal and the Egyptian portraits are the likeness of the daughter of Lysimachus, or the sister of Ptolemy Philadelphus, who were successively the wives of Philadelphus: but there is hardly a doubt that the medal and the handsome portrait represent the same face. No. 67 in plate xx. is the portrait of Philadelphus himself, who is represented as a young man, with the high cap on his head, nearly like that of the colossal figure in the British Museum. (See vol. i. p. 274.)

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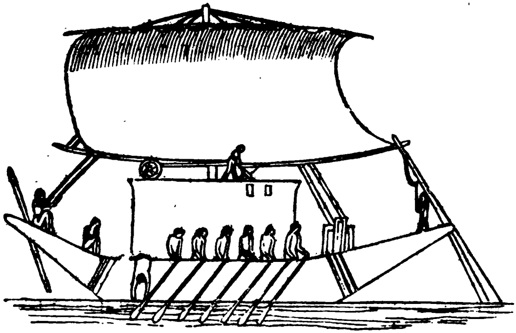
* Lib. xxxviii. cap. 8, referred to by Rosellini.

† Rosellini.

‡ See the medal of Arsinoe, Penny Cyclopædia, article Arsinoe.

Among the drawings in Rosellini's work few possess greater interest than some which represent vessels propelled by oars and sails. Herodotus (ii. 96) describes the Egyptian boats of the Nile, which were used in conveying merchandise, as made of the acantha-tree, probably a species of acacia. From this tree pieces were cut to the length of about two cubits, which they put together, as he describes it, "in brick fashion;" that is, as he explains himself, "they fasten these pieces of wood about numerous long bolts," by which we may simply understand that the timber was fastened together by pins of wood. The next thing is to put planking over the wood. No ribs are used in the construction, and the chinks are stopped with byblus. They have one rudder, which is inserted through the lower part (τροπίς). The mast is made of the acantha, and the sails of byblus. All the Egyptian boats represented in Rosellini's work (M. C. plates cvi., &c.) agree pretty nearly in general form. The head and stern of the boat rise high out of the water, and differ very little in shape, though there is considerable variety in the ornaments of each. Some of the boats are painted all red; others are painted yellow, red, and green. In some the rudder is passed through the stern of the boat at a little distance from the extremity; in others it is represented as attached to the extremity of the stern, and secured (by cords ?), and something that looks like a clamp of iron. As Egyptian drawing is often very ill adapted for enabling us to understand the construction of parts, it is only by comparing a great number that we can be sure of coming to a right understanding of them. The rudder in some, to judge from drawings, appears not to be inserted through a hole in the boat, but to be placed in a small chamber cut out of the extremity of the stern, and left open at the stern end: in this chamber the rudder seems to play. It is not always very easy to see how the rudder was worked, nor does it seem to have been at all a convenient instrument, being in fact nothing more than a long oar, and differing from the oars of the rowers only in size. In plate No. 2, the shank of the large oar or rudder



just passes through the stern, and the upper extremity of it is attached to a vertical piece of wood placed in the boat at a small distance from the stern: a small part of the extremity projects beyond the upright piece of wood, being just enough for the helmsman to grasp with his hand. If we suppose, as we fairly may, that the picture only shows us one of the uprights, and that there is another parallel to it, but hid by that in the foreground, we may suppose, what indeed appears to be intended, that the end of the rudder is hung on a cross-bar passing from one upright to the other. In this case, however, the rudder must have been worked at a great disadvantage. The boat has only one mast, which is painted yellow when the body of the boat is yellow, from which we may infer that it is of the same materials. The sail is square, and suspended from a yard which is placed near the top of the mast, and secured by two ropes, one passing from each end of the yard to the top of the mast. The mast, in some cases at least, could be lowered, and the sail was then reefed upon it. The sails contain three colours, white, red, and blue, disposed in small squares, arranged vertically and horizontally. The sail, in fact, is divided into a number of small squares of equal size, and the colours are so arranged in the lines of squares taken vertically as to run in the following order,—red, white, blue, white, red, white, blue, white, and so on. But as they are also arranged in a similar order when the squares are taken horizontally (beginning from the same square in the uppermost line), it follows that the lines of squares, when taken diagonally, occur in the order red, white, blue, white, and so on, thus exhibiting long diagonal lines of diamonds, red, white, blue, white, and so on, crossing the sails. In one picture (M. C. cvi.) there is no rudder; but three men, who stand at the stern, each with a long oar in his hands, seem to supply its place. Above these three men, and seated on the top of a kind of frame-work, beneath which the three helmsmen stand, we see a man, who is managing the sail by means of two long ropes, one attached to each end of the yard-arm. The mast appears to be steadied by ropes, the upper ends of which are attached to the mast at different heights, beginning from the top, and the lower ends fastened down to the body of the vessel, between the base of the mast and the place where the sailsman is sitting. Several of these boats are so highly finished and ornamented, that we cannot suppose them to be boats of burden, such as Herodotus describes, but rather pleasure-barges. In M. C. plate cix. five people of quality seem to be travelling in a barge, which, however, is not the handsomest in Rosellini's collection of pictures. These five people are sitting in a kind of open cabin, which separates them from the rowers. In the hieroglyphics or symbolical figures that sometimes accompany the pictures of these boats, the abbreviated figure of the boat itself frequently occurs. Boatmen, as is well known, are rather turbulent fellows; and we see representations of those on the Nile fighting desperately when two boats run foul of one another, in which case some of the combatants are without ceremony pitched into the water, and others run a risk of being pierced through with the long boat-poles.

There are two representations of boats on a mutilated stone tablet* (No. 151) in the British Museum. In this tablet all the lines of the figures are made by narrow incisions cut into the stone; and it is only where the figure has a comparatively greater breadth that the hardness of the incision is softened off gradually, so as to leave the central parts on a level with the surface of the tablet. The only colours employed in this relief seem to be red and yellow: both the boats appear to belong to funeral processions†. There is also a stone boat of black granite (No. 17) in the Museum collection, about seven feet long. A mutilated figure is seated in the boat. The head of the boat is entire, but the stern is damaged: the head of the boat consists of a double or Janus face.

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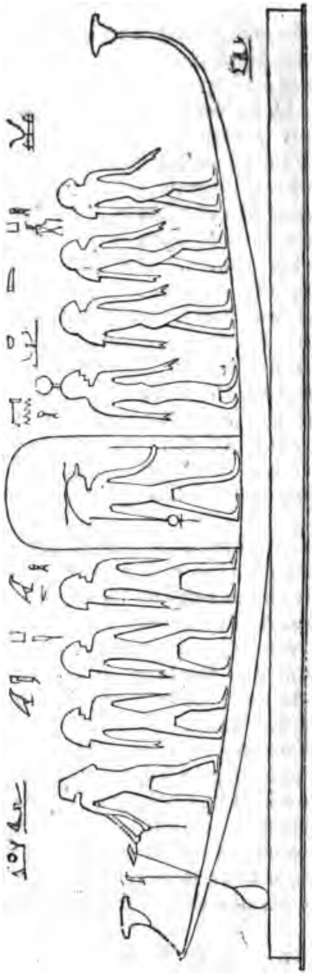
* See p. 14.

† See chapter on Mummies.



From the Sarcophagus No. 10.

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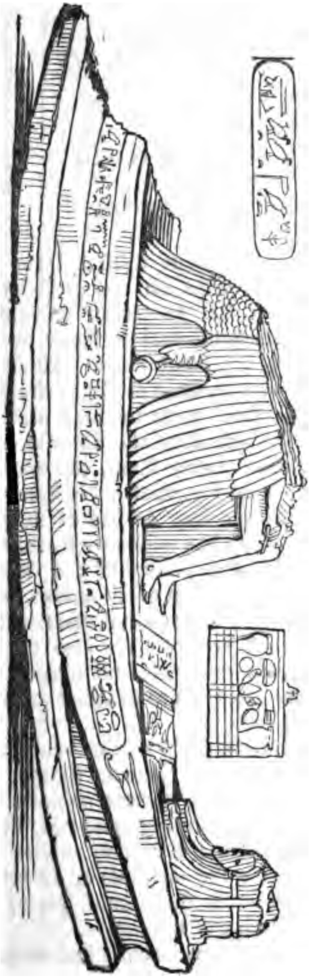

No. 17.

CHAPTER III.

MUMMIES.

THE religious sentiment which led the Egyptians to bestow so much pains on the preservation of their dead, has been the means of transmitting to the present day nearly all that we know of their skill in the useful and ornamental arts. Their temples and their tombs were in their origin, perhaps, closely connected; and when their temples and palaces had received all the splendour and decoration which Egyptian art could bestow on them, the tombs which they appropriately called eternal habitations, were not left without a corresponding degree of magnificence and ornament. From the tombs we learn, not only what was the mode of disposing of the dead,—a subject of the highest interest in every nation, as being one of the outward signs of its social state and its religious character;—but here we see also the daily occupations of life, an enduring and almost living picture of one of the oldest states of social existence of which we have any record.

What we have already said on sculpture and painting, has, to a certain extent, though unavoidably, anticipated part of the present subject. We propose in this and the following chapters, first, to give a short account of the Egyptian modes of interment, and to compare the accounts of Greek writers with recent inquiries: in the second place, we shall give a brief description of the tombs.

The following extract from a journal of M. Villoteau, communicated to M. de Sacy, will give a pretty correct notion of the swathings and general appearance of an embalmed Egyptian body.

"The 5th October, 1800, having left Carnak, we passed to the other bank of the Nile and encamped opposite the village of Gourney. Scarcely were we encamped, when we saw some men approach with dead bodies on their shoulders, which turned out to be mummies. They put them on the ground, and offered them for sale. One was the mummy of a female, very well preserved. As we wished to know how it had been embalmed and swathed, we took off the outer covering, consisting of an upper and a lower part, the opening of which had been laced in front. With much care we took off a great number of bandages, which passed round the legs and feet, the thighs, the body, arms and head; and after this, we began to distinguish more clearly the forms of the extremities, the head, feet, and hands, while the shape of the bosom and body were still but faintly seen.

"As we came nearer the skin, the bandages were broader, and the extremities became more distinct. At last, we could clearly distinguish the nails of the fingers and toes, the nose, mouth, and eyes. Finally, we came to a kind of envelope which covered every part; so that we took off in a single piece the part which covered the higher division of the face, and which preserved perfectly the form of the projecting features. The other parts were more covered in proportion, but those where the embalmer had been skilful enough to fill up the form, showed us nothing but black and dry members. The shape and the colour of the nails, which were expressed on the envelope, disappeared.

"Yet all the parts of the body, though dried, retained their natural form. The hair, eyes, nose, and mouth were so well preserved, that one could easily recognize the expression of countenance which they must have produced. The hair was quite black, without any mixture of white hair, though the person appeared to have been old at the time of death. All that we could observe was, that it was a little red near the roots. The hair was well fixed, long, and divided into plaits, fastened up on the head rather carelessly; which makes me infer, that at that time the women let their hair fall down along their back in numerous tresses*.

"The eyelids, lashes, and eyebrows were still in their natural state †. The eyes only appeared to be slightly injured, because they were dried, and the pupil had shrunk in a little. The nose was pretty nearly in its natural state, very regularly formed, and very beautiful. The tongue was dry, and like a piece of parchment. The lips were thin, and the mouth small. The teeth appeared to be worn out through old age, and to have lost their sharpness, but they were all there, and seemed not to have been decayed. Even at the present day, it is remarkable that the natives of Egypt have very good teeth, which they keep to the most advanced age. The head of this mummy presented in general a tolerably regular oval. The body had been opened on the left side of the stomach in order to get at the entrails, and to introduce the aromatic substances; and we drew out enough to satisfy ourselves, that these were resinous materials. As to the sexual parts, though dried, they preserved their form.

"This female mummy had the arms and hands extended, and placed along the body, while a male mummy, which we examined, had the arms crossed on the breast; facts which we observed to be of regular occurrence in the female and male mummies."

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* This description by Villoteau agrees very well with a female head in Mr. Pettigrew's possession; which is a small and very beautiful female head.

† Compare Diodorus, i. 91, who says, "each part is so well preserved, that the eyelids and eyebrows remain; the whole expression of the countenance is unchanged, and the form of the body easily distinguished."

The book of Genesis contains the earliest notice of embalming in Egypt; and, independent of the evidence furnished by the mummies themselves, proves the high antiquity of the practice. When Jacob died "Joseph commanded his servants the physicians to embalm his father: and they embalmed Israel. And forty days were fulfilled for him; for so are fulfilled the days of those which are embalmed: and the Egyptians mourned for him threescore and ten days*." Jacob's body was then carried into Canaan, accompanied by "all the servants of Pharaoh, the elders of his house, and the elders of the land of Egypt," and deposited in the sepulchre which Abraham had purchased in the neighbourhood of Mamre. This was indeed "a very great company," as the book of Genesis describes it, and the ceremony may fairly be considered as what usually occurred on the death of an Egyptian of high rank. Joseph also was embalmed, and he was put into a coffin or mummy-box in Egypt. When the children of Israel were flying from the bondage of the Pharaohs, they took with them the bones of their great ancestor Joseph, in compliance with his dying injunctions; and they finally deposited the remains of Joseph at Shechem, in the promised land, after having carried them about in their wanderings for more than forty years.

The oldest description of the process of embalming is that given by Herodotus†, as in use during the time of his travels in Egypt, in the fifth century before the Christian era‡. We shall take his description as a text, and make such remarks as may be necessary to explain or correct what he has said.

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* Genesis, chap. l.

† ii. 86.

‡ Herodotus was born B. C. 484: we know that he was alive B. C. 408. (See Herod. i. 130.) His visit to Egypt could hardly be earlier than B. C. 460, and probably was later.

"There are persons whose business it is to embalm the dead, and they make this a regular profession. When a body is brought to them, they show the friends patterns of dead bodies, made in wood, and painted to represent a human likeness.

"The most elaborate style, they say, belongs to HIM whose name I dare not venture to mention on such an occasion*; the second is an inferior and cheaper style; and the third is a very economical one. The relations having made their choice and agreed on the terms, the embalmers begin their work; proceeding in the following manner, when they have to embalm a body in the most expensive style. With a crooked piece of iron they draw out the brain through the nostrils, and then pour in some mixture of drugs (aromatics and astringents). In the next place, they make an incision in the side with an Ethiopian stone (a piece of basalt, or possibly flint), and take out all the intestines, which they clean and drench with palm-wine, and afterwards with pounded aromatics. Finally, after filling the cavities of the body with pure myrrh pounded, with cassia and other aromatics, except frankincense, they sew the incision up. The body is then placed in nitre (*natron*) for seventy days, but not more; for this is the prescribed time. When the seventy days are past, they wash the body and wrap it all over with strips of linen, smearing them with gum, which the Egyptians generally use instead of glue. The relations, on receiving the body, have a wooden case made, resembling the human form, and in this they place the body, and deposit it in a tomb of the form of a chamber. The case containing the body is set upright against the wall.

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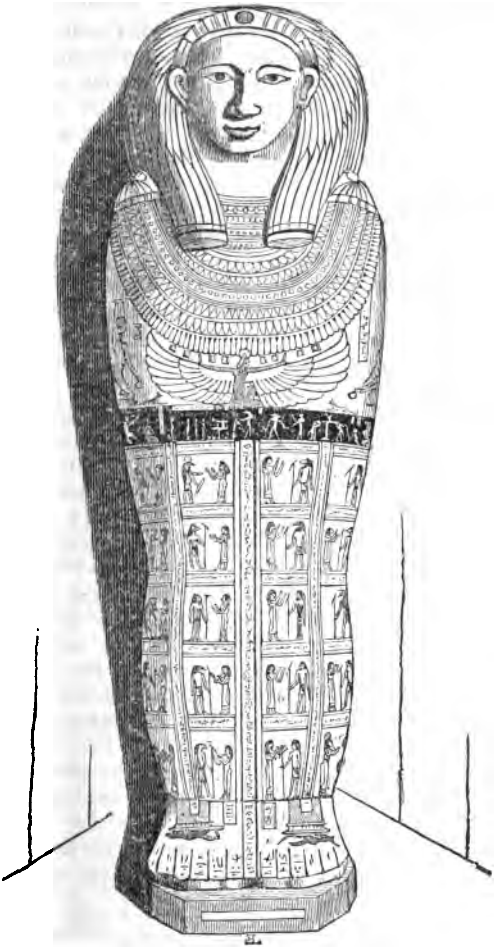
* He means Osiris: compare Herod. ii. 170.



"When the friends choose the second method, and wish to avoid expense, the process is as follows:—They fill syringes with oil of cedar, which they inject into the body through the seat, without making any incision or taking out the inner parts. The injection being prevented from returning, they lay the body in the salt for the prescribed number of days; on the last day, they allow the injection to flow out, and such is its strength, that it brings with it the bowels and viscera completely dissolved. The natron destroys the flesh also, and nothing is left but skin and bones. When this is done, they give the body to the friends without doing anything more to it.

"The third mode of embalming is as follows, and is used for the poorer sort. They drench the interior well with a strong injection, and after putting the body in the salt brine for the seventy days, return it to the friends."

Herodotus adds, that it was not usual for females of rank to be put into the hands of the embalmer until the third or fourth day after the death; and this for a reason more decent to allude to than to explain *. We do not know whether foreigners resident in Egypt were compelled, or allowed, if they wished it, to observe the Egyptian mode of interment: the Greeks, at least, who were connected with the foreign commercial establishments at Naucratis, would, we presume, be allowed to follow, in this respect, the religious usages of their own nation, as they were permitted the free exercise of their national worship †. The Persians also, after their conquest of Egypt, being masters of the country, would of course do as they pleased. There was a law, however, applicable both to natives and foreigners, which is characterized by the peculiar stamp of Egyptian institutions: "Whatever person, whether native or foreigner, is killed

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* See Herod. ii. 89.

† Herod. ii. 178.

by a crocodile, or drowned in the river, at whatever city the body is cast up, must be embalmed by the people of that city, and the body, after being swathed in the best style, must be interred in sacred tombs. No one, either relation or friend, must touch the body; but the priests of the Nile alone may handle and inter the corpse, as it is considered something more than human." The sacred tombs here spoken of are probably those of the sacred animals, to which the deceased became entitled to admission by the peculiar manner of his death. This law has sometimes been considered as a mere matter of policy, intended to prevent accidents, in order to save each town the expense of a sumptuous embalmery. But this is evidently a wrong view of the matter. If the law had this object, it would have provided against other kinds of accidents, by which men might lose their lives. It is pretty certain that the inhabitants of the city, where the corpse was cast up, would consider it as a happy event, since it added one more deified tenant to their valuable collection. There was no doubt a sacred reason for it, as Herodotus would say,—a reason just the same as that which made him not mention the name of Osiris, when speaking of the first process of embalming. In the defective state of our knowledge as to the religious usages of the Egyptians, a sacred reason is the best that can often be assigned: it is to us, and was perhaps to them, too, an ultimate fact, and like many others of a different kind, incapable of further resolution.

We may observe, from the passage of Herodotus just translated, that the occupation of the mummy-case maker was quite distinct from that of the embalmer, who merely kept some specimens of mummy-cases by him, in order that he might prepare the body in a style suitable to the kind of chest in which the friends intended to deposit it. It is also clearly implied, in the description of the second and third mode of embalming, that the body was not as a matter of course put into a wooden case, or even swathed in linen; and, accordingly, we find in Egypt, to the present day, numerous mummies merely wrapped up in their linen swathings; and we may safely infer, that there were many which were merely put into dry pits and holes.

The account of Diodorus *, who visited Egypt about four centuries after Herodotus, contains some additional matter and some variations in description, not of sufficient importance to be transcribed. There is one part of his story that often passes current in modern books which appears ridiculous and is probably untrue; at least, it is exceedingly unlikely that it was a general usage. "When the body is laid on the ground, the registrar (γραμματεὺς) marks on the left side the magnitude of the incision which law or usage prescribes to be made. Then the operator (παρασχίστης), with an Ethiopian stone, cuts as far as the prescribed limits, and straightway takes to his heels. The standers-by follow and pelt him with stones, and curse him, &c. &c." According to this account the paraschistes held the same enviable rank that our modern hangman does. Can anybody for a moment imagine that the ceremony of opening the corpse was performed in public? The whole tenour of the description of Herodotus and the reason of the matter also show clearly enough that the process of embalming must all through have been private. We learn from Diodorus, that the embalmers formed a caste (so at least we feel inclined to interpret ἐκ γένους παρειληφότες), in which the science of mummy-making was transmitted from father to son; and we may judge of the importance of this caste by learning that its members had as free admission to the temples as

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* i. 91, &c.

the priests themselves. Though both Herodotus and Diodorus enumerate only a small number of castes in Egypt, we may readily convince ourselves that the subdivisions of them were almost endless, as in India at the present day.

The account given by Herodotus of the modes of embalming appears to be substantially correct, though there were other methods which were not known to him, or which may have been introduced after his time; or he may have thought it sufficient to indicate three of the most general modes, such as by inquiry he became most familiar with; for we assume that he never saw the process. We shall therefore take his description, part by part, and compare it with what has been ascertained from the examination of mummies in our times.

1. In some mummies that have been recently examined, the brain was found to have been carefully extracted. This was the case with one opened in the theatre of the Royal Institution, Albemarle-street, by Dr. Granville, with one belonging to Mr. Pettigrew, and with a mummy examined at Leeds*. According to Herodotus, the operation was performed with an iron instrument: we do not conceive it necessary to interpret "iron" in this passage to mean bronze or any other metal, either simple or compound, as some critics have done. In skulls when opened, the dura mater has been found entire, and the falx, tentorium cerebelli, and lateral sinuses uninjured. But in other instances the brain has been found in the skull, as in the case of one that was examined at the rooms of the Zoological Society in Bruton-street. Where the brain has not been extracted, it has assumed the form of a caky substance, which, owing to the original position of the body, has lain on the interior back-part of the skull. When

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* See the account by W. Osburn, jun., Leeds, 1828.

the brain has been extracted, the cavity of the skull has been found to contain aromatic substances in the form of a coarse powder*. It appears that different specimens present varieties, but on the whole so far confirm the statement of the Greek historian. A singular fact was observed by Mr. Pettigrew in the skull of his Greek-Egyptian mummy; the skull was quite empty, with the exception "of some insects and the pupæ of others †."

2. The incision in the side was made with a sharp stone, according to Herodotus, which some have conjectured to be a pyromachus silex ‡. Diodorus adds to this information, that the incision was made on the left side, which is the case with all the mummies hitherto examined, as far as we know. This part of the ceremony is often represented on papyri and mummy-cases, where we see the body stretched on a table with a lion's head and legs. The Egyptians seem to have been fond of introducing the form of the lion, or of parts of its body, such as the legs, into their common furniture. There is probably, therefore, no occasion to look for any special reason for a dead body being placed on a table of this form. In the representations of this ceremony, the embalmers, who are painted black, have jackals' heads. May we

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* Leeds mummy, p. 48.

† See Mr. Pettigrew's History of Egyptian Mummies, p. 53. Mr. Pettigrew has placed in a note some valuable remarks by the Rev. F. W. Hope on the insects found in mummy-skulls. "From one skull," he observes, "more than two hundred and seventy tolerably perfect specimens of the Dermestes Pollinctus were taken; and, from the remaining fragments of others, probably double that number lived, propagated, and died without ever seeing the light. The perfect pupæ are not abundant; the remnants of the empty cases, however, would lead one to believe that the greater part of them arrived at the imago state some time after the process of embalming was completed, when, as mummies, they were deposited in their respective mausolea."

‡ See Minutoli.

conjecture that they performed the most disagreeable part of the ceremony in masks? The reason for the *form* of the jackal's head may be a sacred one. A tablet in the Museum represents in one compartment, a figure with a jackal's head apparently engaged in swathing a mummy, which is extended on a lion-shaped bier.

3. It does not appear from Herodotus what was done with the intestines and viscera (the words *τὴν κοιλίην πᾶσαν* comprehend both) when they were taken out; but as they were cleaned and treated in the same way as the other parts of the body, we may safely infer that, in the most expensive style of embalming, it was the practice to preserve them. Belzoni says: "Vases are sometimes found containing the embalmed entrails of the mummies: these are generally made of baked clay, and painted over; their sizes differ from eight inches to eighteen; their covers represent the head of some divinity, bearing either the human form, or that of a monkey, fox, cat, or some other animal. I met with a few of these vases of alabaster in the tombs of the kings, but unfortunately they were broken." In confirmation of the inference fairly deducible from Herodotus, and of what is here stated by Belzoni, we observe, in the representation of the embalming process, four vases constantly placed under the table. In some of the larger mummy-cases there are found at the feet of the body small painted coffers, about a foot high and a foot broad; they contain embalmed substances, the examination of which presents some difficulty. Some of these coffers contain on one side the representation of the four deities of the world below*. It seems

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* See Minutoli's Travels, plate xxxvi. fig. 2. a. b., where there is a drawing of one of these coffers; and Rosellini (M. C. pl. xlv.), where the four vases are all painted yellow, and are surmounted respectively by a human face painted red, the face of a cynocephalus also red, that of a jackal painted black, and that of a hawk painted yellow; the head-dresses of all the four are blue.

probable, that the substances here spoken of are the viscera, a supposition which is confirmed by the figures of the four deities on them.

There is a curious statement made by Porphyrius in his book on abstinence (περὶ ἀπόχῆς ἐμψύχων, iv. 10), which we quote, not because we believe it, but because it would perhaps be considered an oversight if it were omitted.

But "when they embalm dead people of rank, they take the viscera (τὴν κοιλίαν) out by themselves and place them in a vase or box (κιβωτὸς). Then, together with other things which they do on behalf of the dead, they also take the vase, hold it up to the sun, and call him as a witness, one of the embalmers (ταριχεῦται) speaking on behalf of the deceased. The address, which Euphantus translated from the native Egyptian language, is this: 'O Sun, our Lord, and all ye Gods who give life to man, receive me, and let me dwell with the ever-living Gods: for all my life long I worshipped the deities whom my parents pointed out to me, as long indeed as I lived in this world; and I always respected my parents, and I never killed a man, and I never refused to give up what was trusted with me for safe-keeping, and I never did anything else deserving of great blame. But if during my life-time I ever did wrong, either in eating or drinking what I ought not to have eaten or drunk, it was not for myself, but for these that I sinned' (pointing to the vase which contained the viscera). After saying this, the embalmer throws the viscera into the river."

This statement of a native of Batanæa in Syria, and a writer of the third century of the Christian æra, though confirmed by the earlier authority of Plutarch (Symposion, cap. 16.), appears to be entirely unworthy of credit, if viewed as a part of the antient process of embalming in Egypt.

But we know, from numerous examples, that the interior parts, even when not put into jars, were disposed of in a very different way from that described by Porphyrius. In the mummy examined in Bruton Street, the internal parts had been taken out through an incision of the usual kind, and were placed in a mass on the outside of the stomach, where they had undergone the process of being scalded and blackened by the hot pitch, which had been plentifully poured over the whole body. In this instance the incision was not sewed up, as Herodotus describes, and indeed it does not appear that any example has yet been found of the incision being sewed up. Mr. Pettigrew observes, "the cut surfaces of this incision were, in all the instances that I have seen, merely brought together, not sewed, as stated by Herodotus. M. Rouyer's experience coincides with mine*." In the Leeds mummy, "the edges of the opening were laid nearly in contact, but were not closed by any kind of suture†." In the mummy of Bruton Street, which was a male, and not embalmed in the best style, the operation of circumcision, which was an Egyptian practice, seemed to have been performed. The cavity of the stomach contained lumps of pitch mixed with some strong aromatic substance, which smelled like myrrh, and was believed to be that substance. In other cases the cavity of the stomach has been found nearly filled with a brownish substance like sawdust, apparently composed chiefly of pounded aromatic matter (the ϑυμιήματα τετριμμένα, pounded aromatics of Herodotus), which in the Leeds mummy were cassia and myrrh. Diodorus says (i. 91), that the kidneys and the heart were not taken out to be cleansed; but though this might be the case sometimes, there are plenty of examples which prove it was not the case always. In a mummy examined at the London University in 1834, part of the viscera were placed between the thighs and under the hands. From being saturated with the embalming substances, a kind of hard cake was formed on the outer surface, which had a fracture like glue*. Part also were placed between the legs a little above the feet. The obvious conclusion is, that while Herodotus and Diodorus described such processes as they heard of, such as they believed to be, and such as probably were, the most common, there were many variations which they either knew nothing of or did not care to mention. Besides this, the specimens of mummies which have been recently examined, undoubtedly belong to various epochs, and some to various places, so that we may reasonably expect to find some diversity in the mummifying processes. As to the incision in the side, and the taking out of some portion or the whole of the internal parts, instances have occurred of mummies, which in other respects would belong to the first class, on which this operation had not been performed.

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* History of Mummies, p. 59.

† Leeds Mummy, p. 49.

After the body was cleaned and prepared with the aromatics, it was, according to Herodotus, placed for seventy days in natron; and after this operation, which, however, we do not believe was always performed, it must, we presume, in addition to being washed, have had the aromatic substances put into the cavity of the body. Mr. Pettigrew (p. 61), says, that the placing of the body in the saline liquid would of necessity precede the application of the aromatics; but we are inclined to follow the statement of Herodotus. Diodorus does not mention the pickling at all, and certainly it must have been dispensed with in many cases, where the body appears to have been plunged into boiling asphaltum, or to have had this liquid pitch plentifully poured over it. M. Rouyer conjectures that the bodies must have been kept in vessels at a high temperature, till they were fully saturated with the resinous substances.

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* In the instance of the Leeds Mummy also, it is said, p. 50, "the fractured surface of this substance (supposed to be the heart), as well as of the former, bore a considerable resemblance to glue: the same appearance was observed in the kidneys and also in the tongue."

Herodotus states the number of days for the pickling process to be seventy: Diodorus mentions more than thirty days as the time employed in the process of embalming. The statement in the book of Genesis agrees with neither account, but mentions seventy as the number of days that the Egyptians mourned.

Mr. Pettigrew remarks, that, after the completion of the embalming process, he suspects that the cuticle was removed, though it is added that in the Leeds mummy this was not the case*. But if there is any foundation for the conjecture of Dr. Granville, that lime was used for removing the cuticle, it would appear that it must have been removed before the process of embalming; and this for the reason assigned by Mr. Pettigrew, that the body would in that state "more readily receive the benefit of the palm-wine, which would act as an astringent, and in a manner tan the skin."

The notion that the steeping in the natron preceded the application of the aromatics appears to have originated with M. Rouyer†, if we understand him right. He says the process was commenced with lime, natron, and aromatics. The lime and the natron, acting as absorbents, would penetrate all the soft parts, and carry off the juices and the fat without destroying the fibre or the skin. The natron he supposes was used just as it was got from many of the lakes in Egypt, where it is found abundantly in the form of carbonate of soda. The aromatic substances having both styptic and absorbent, in addition to balsamic, qualities, would produce a kind of tanning operation on the body. This however, he considers, would not have been sufficient. He says that after the bodies were washed with the palm-wine, they were filled with resinous or bituminous substances, and placed in stoves of a proper temperature, where the heat united the resinous substances closely with all parts of the body. "This operation," he adds, "of which no historian has spoken, was no doubt the principal and most important part of embalming."

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* See Leeds Mummy, p. 51: "on macerating different portions of the skin, the cuticle was with great facility separated."

† Notice sur les Embaumens des anciens Egyptiens, par P. C. Rouyer; Descript. de l'Egypte, vol. v.

The rectum of a mummy has been found stuffed tight with linen, apparently with the view of keeping the aromatic substances in the body, while undergoing a process like the second mode described by Herodotus. Whether this linen was intended to remain, or its being there was owing to mere carelessness on the part of the undertakers, we do not attempt to determine.

As to the position of the arms, M. Villoteau observes, in the extract which we have given above, that in all the male mummies which he examined the arms and hands were crossed on the breast. But this is by no means a general rule, as we often find the arms extended along the sides or inclined a little towards one another and resting on the pudenda; and it appears clearly from all the notices of different writers that there was no invariable rule in this respect.

A mummy, after undergoing the processes described, is not generally dry and brittle, even when examined at the present day: it is rather tough and slightly flexible; and it would certainly require considerable trouble to tear one in pieces, which has been prepared in the best manner with asphaltus. When Cambyses invaded Egypt (B.C. 525), he was very curious about looking into the tombs, and opening mummies, without paying the least regard to the religious feelings of the conquered nation. Among other freaks he got hold of a mummy at Sais, which he supposed to be that of King Amasis, who died just before the invasion. After this mummy had undergone a sound whipping, accompanied by the application of sharp-pointed instruments and the plucking out of the hair of the body, it still proved so stubborn that the only chance of despatching it was by throwing it into the fire. In doing this, as Herodotus remarks (iii. 16), Cambyses not only insulted the Egyptians, but disregarded the religious opinions of his own people, who held fire to be a deity, and that to present a dead body to it was by no means a seemly thing.

It is a fact known from antient writers, that the Egyptians were well acquainted with the art of gilding (Herod. ii. 182), which they used for ornamenting statues. But the only instance of gilding connected with funeral purposes, that we can find in the Greek writers, is that recorded by Herodotus (ii. 129), where he says that the embalmed daughter of Mycerinus was placed in a wooden gilded cow: the cow was kept in an apartment of the palace at Sais, where Herodotus saw it. But many mummies that have been examined, have been gilded either in part or entirely. Mr. Pettigrew's Greek-Egyptian mummy was probably, we may perhaps say certainly, gilded all over, and parts of the gilding still remain irregularly scattered on the feet, legs, arms, body, and head*. In other mummies the gilding has been observed on the nails of the fingers and toes; on the eyelids, lips, face, and even on the sexual organs.

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* See the two fine plates of this mummy in Mr. Pettigrew's History, &c.

In the mummy examined at the London University the eyes were taken out, and replaced by linen cloth made into a tolerably compact mass in order to fill the cavity of the eye: the pupil of the eye was represented by a little colouring in the centre of the linen. We have been informed that some mummies have been found with eyes of glass or porcelain; but in other cases the eyes have been left in*.

We have already remarked that female mummies are found with long beautiful hair; but the males, as far as we know, have the head, beard, and sometimes even the eyebrows shaved. This might in most cases have been done after death. The priests, we are informed (Herod. ii. 37), shaved the whole body every third day, with a view to cleanliness, and to keep the body clear of vermin, which seem to abound in Egypt. This is well illustrated by the Leeds mummy, supposed to be a priest, of which the head, eyebrows, and beard had been closely shaved. Herodotus (iii. 12) remarks that the skulls of all the Egyptians that he saw on the battle-field near Pelusium were very thick, which he attributes (whether rightly or not we do not know) to the circumstance of the Egyptians shaving their heads from an early age, and not wearing any covering for the head. This passage might at first sight seem to imply that all the Egyptians wore their heads shaved; but this is inconsistent with what follows: "this is the cause of their not being bald, for you see fewer people bald in Egypt than in any other country." The object of the early shaving then was to strengthen the hair, which was afterwards worn thick and bushy, as we see in many of the paintings, and in the specimens already described from the British Museum. We must conclude, then, that the heads of laymen were shaved after the death; and this, indeed, would appear to be a necessary preliminary in a country where men wore their hair long.

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* Leeds Mummy, p. 7.

The third mode of embalming described by Herodotus must have been the most common, as it was the cheapest. The term syrmæa (συρμαίη), a word applicable to any strong purgative dose *, can mean in this passage nothing but a powerful injection, for the purpose of destroying the viscera and intestines. There is no authority for considering the word as a special name, descriptive of some particular compound. These bodies were steeped in natron for seventy days, which is possibly a sacred number, as the same time for lying in pickle was allowed to all the bodies. These mummies, in which no bituminous matter or resins were used, were not of course calculated to last very long; and, as they soon became very dry, they would be mere skeletons. Bodies prepared in this or some equally cheap manner have been found buried in the sand at a small depth. Some of these bodies have been merely dried: others have been filled with bituminous matter, or merely covered with charcoal, which last fact shows the Egyptians were acquainted with the antiseptic properties of this substance. The greater part of these bodies are still wrapped in rags of coarse cloth, and in mats made of reeds and palm-leaves †.

When the operation of embalming was finished, that of swathing the body followed, which was performed, according to Herodotus, by the embalmers (ταριχεῦται) ‡. Some notion of the quantity of cloth used for this purpose may be formed from Mr. David-

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* Herodotus (ii. 77) uses the verb συρμαΐζουσι in this general sense, and proceeds to explain that he means it to include both emetics and clysters. M. Rouyer, and others who have followed him, have supposed that by *syrmæa* Herodotus meant to describe a *particular* injection,—which is not the case.

† M. Rouyer.

‡ Some modern writers have supposed the swathers to have been a distinct set of persons, named cholchytæ. The supposition is founded on what we believe to be a false reading in Mr. Grey's Papyrus. See, in Appendix, Mr. Grey's Papyrus.

son's statement, that in his mummy the weight of the bandages, including the outer sheet, was twenty-nine pounds, and their total length two hundred and ninety-two yards. In a mummy opened by Mr. Pettigrew, the cloth weighed thirty-five pounds and a half; and in the Leeds mummy, there were in no part less than forty thicknesses of cloth. When the mummy, with its envelopes, is first taken out of its case, it presents the appearance of a large mass of cloth, somewhat resembling the general outline of the human figure. The whole is covered with an envelope generally of coarse, but in some cases of fine cloth; this external cloth is generally of a reddish-brown colour, like the rest of the linen used in the swathing, but sometimes it has been found white. Under this envelope are the bandages, which consist, as Herodotus describes them, of strips of cloth (τελαμῶνες), varying in length and breadth, both in the same and in different mummies. These pieces of cloth have been found several yards in length (in the instance of Mr. Davidson's mummy some were nine yards long), and in breadth from a few inches to a couple of feet, in the best preserved mummies. The bandages immediately below the envelope proceed in an oblique direction round the body from the head to the feet, and are in some cases glued together with gum, for the purpose of securing all that was below them. It has been generally observed that the cloth increases in coarseness as we come nearer to the body; and all the hollow and depressed parts are carefully filled up, in order to give the surface more uniformity and roundness, and to enable the external bandages to be applied with more ease. In continuing the process of unwrapping, large pieces of linen have been found, not wrapped round the body, but lying by it. A piece of cloth of this description, found in the Leeds mummy, was a perfect vest, and though this is by no means the only instances of one being found, it is too curious to be passed over without further notice. "It is," says Mr. Osburn, "of a very simple form, being merely a piece of cloth, doubled and seamed together on two sides, like a bag; the aperture answering to the collar is cut out and hemmed round; it has no sleeves, but the garment itself must have reached nearly to the elbow, where it was probably confined by some means; the holes for the arms are hemmed round like the collar; round the bottom is a fringe about an inch and a half in breadth. It is unquestionably the kind of Egyptian garment described by Herodotus, under the name of calasiris." Herodotus (ii. 81*) speaks of linen garments, fringed about the legs, as being the dress of the laity, for he has specially described that of the priests in another place (ii. 37): over this linen vest they wore a white woollen vest, which, however, was never buried with them. The plain inference is, that he meant to say, that the linen vest was interred with the body, which in the instance of the Leeds mummy, and others also, we know to have been the case.

The followers of the Orphic and Bacchic rites (which were, according to Herodotus, Egyptian), and the Pythagoreans also, did not bury their dead in woollen vests: there is a sacred reason assigned for this, says the old traveller, and this was always a good reason with him for telling no more. No man was ever more deeply imbued with the religious feelings of his age, and no man ever treated the religious usages and opinions of all nations with more decent respect, which is one among many proofs of his good sense.

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* One of the two military castes of Egypt was called calasiries (Herod. ii. 164), a name evidently significant and indicative of part of their dress.

General Reynier, when in Egypt with the French expedition, obtained two tunics from the Arabs of Sakkârah, who said they found them in a hole filled with sand which they had cleared out. One of these tunics is of a square form, being three feet one inch long, and of equal breadth: the sleeves are about one foot four inches long. There is an opening at the top for the head, and it was also open at the bottom, being, in this respect, pretty much in the form of a common shirt. In the lower part of the shirt, both before and behind, there are two square pieces of embroidery let into the cloth; a similar square piece appears on each shoulder. On each of the arms there are also two pieces of embroidery; and one on each side between the hole for the neck and the square patch on the shoulder, hanging down before and behind, ike a pair of braces: these embroidered parts are sewed to the cloth. The embroidery contains nothing at all that is of a pictorial kind, but is formed of squares and circles, and other forms of pure invention. Though this shirt is no doubt very antient, it bears no characters on it which determine positively if it belongs to the early Egyptian or to a later period; and the precise locality from which it came being unknown, cannot be used as any confirmation of either opinion. The cloth is yellow, and the embroidery brown. It was not determined if the material of the shirt was linen, cotton, or hemp; but the first is most likely. Some chemists conjectured that the embroidery was made of the hair of an animal. The body of the tunic is formed of two breadths or pieces, and the seams on each side are covered with a neat piece of edging: the bottom of the sleeves is edged in the same way. The opening for the neck could be contracted by some small ties which were still attached to it*.

On reaching the cloths which are nearest the body, they are sometimes so bound together, and blackened with the scalding bituminous matter, as to form a hard mass, which can only be got from the body by cutting and with much trouble. In some mummies the extremities are first bandaged separately, beginning with the ends of the toes and fingers and going upwards. Of some mummies, which Belzoni took to be personages of importance, he says, "the bandages are strips of red and white linen intermixed, covering the whole body, and forming a curious effect from the two colours. The arms and legs are not enclosed in the same envelope with the body, as in the common mode, but are bandaged separately, even the fingers and toes being preserved distinct. They have sandals of painted leather on their feet, and bracelets on their arms and wrists. They are always found with the arms across the breast, but not pressing it; and the body is bound with such a quantity of linen, that the shape of the person is carefully preserved in every limb. The cases in which mummies of this sort are found are somewhat better executed; and I have seen one that had the eyes and eyebrows of enamel, beautifully executed in imitation of nature." Belzoni also observes, that there is evidently a great difference in the modes in which mummies are preserved—a circumstance that might naturally be expected, and one that is fully confirmed by all the specimens examined in Europe. Some, he adds, are wrapped in very coarse cloth, and the quantity used on the inferior bodies is small with that employed on personages of rank. Economy was not overlooked in furnishing the mummy with his linen wrappings: we find a great deal of old cloth about them, some of which has evidently been much worn, and occasionally darned by some thrifty housewife.

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* See Egypte, Antiquités, v. pl. 5; and Description, &c., vol. v.

The following description of a mummy, as it must have appeared in its full swathings, when it was just ready to be boxed up, is from the plate and description in Minutoli*.—The wrappings are as usual of a red colour, supposed to be from the dye of madder. Very regularly disposed white bandages are placed over these wrappings, and their ends are fastened on the top of the head, with a kind of seal of Nile mud. A papyrus-roll in the royal collection (at Berlin) bears three impressions, also, made in Nile mud, through which a thread runs. On the breast of the deceased is the sacred beetle, the symbol of Phtah and of the generating power of the world: the beetle is cut out of lapis lazuli, and has golden wings; it holds a solar disk between its fore-legs; the four deities of the lower world stand below it, two on each side; below them is a line of hieroglyphics, all made of strongly gilded enamel.

Besides the wrappings of the body it is not unusual to find small wooden or porcelain figures with the mummies, especially under the first set of bandages. Scarabæi of various kinds of stone, papyri, and a great variety of small objects, have been found on the bodies, under the arms, between the legs, and in various other places. Sometimes a written papyrus was also placed under the sole of the foot, as we see from the form of a Greek papyrus found by Passalacqua. But perhaps the most curious discovery yet made is that of a portrait which Mr. Pettigrew † found placed upon the bandages of a mummy sent to the British Museum by Mr. Salt. The painting is on a thin piece of cedar-wood, and has the appearance of a young man ‡. The hair is black, and apparently thick and curly; the complexion is a red, very like that of the figures in the Egyptian paintings of the Museum; the eyes are very large and exceedingly well furnished with eyebrows and lashes; the nose is straight and well-formed; the mouth and chin rather small and well-formed; the ears are large, but not placed so high as we observe on the statues: the neck is bare. The figure, which is of bust proportions, shows the upper portions of the dress, which plainly consists of two distinct parts, of which the outer appears to differ from the under vest, both in texture and in the way it is worn. It reminds us of the expression of Herodotus (ἐπαναβληδὸν), which he uses to describe the upper garment being thrown or drawn over the under. The painter has taken some pains to give roundness and relief to the features, and altogether has furnished us with the best specimen of Egyptian face-painting that we have yet seen.

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* See plate xxxviii. † History of Mummies, p. 100.

‡ See the plate in Mr. Pettigrew's work. He observes, that "Mr. Sáms has a portion of a similar portrait, which in the style, management of colours, &c., bears a strong resemblance to that in the Museum." A painted head similar to that in Salt's collection, apparently also a portrait, is engraved in Becker's Augusteum ou Description des Monumens Antiques qui se trouvent à Dresde, 3 tom. fol. Leips. 1808. tom. i. p. 12, and p. 19, a similar portrait of a female.

After all the labour bestowed on the preparation of a mummy, it is natural to expect that the name, and titles of the deceased, if he had any, would appear on some part of the wrappings or on the case. In the Leeds mummy* there was found on the bandages of the head and face a thong composed of three straps of red leather, "sewed by a single stitch. To these, a smaller piece, and of a different shape, is attached by means of two leathern strings." Another piece was found which appeared to have broken off from the rest†. These pieces of leather have figures and hieroglyphics on them, which are said to be evidently the impressions of heated metal types. Mr. Osburn (following the system of Champollion) has determined this individual to be Natsif-amon, a contemporary of Remesses V., whose reign commenced B.C. 1493.

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* See p. 4, and 24, &c.

† See the drawings of these in the account of the Leeds Mummy.

In the mummy examined at the London University certain marks were observed at the termination of several rollers or bandages. Though these marks presented some variations, such as are of common occurrence in Egyptian writing, where a group of figures is repeated, yet they were evidently intended, in each instance, to express the same thing. If we assign to these symbols phonetic, that is, alphabetic values, there results a name which we may call Canopus. Canopus was the name of a city in the Delta, and some modified form of the name might also belong to an individual. The name was accompanied by the symbol explained by Dr. Young to signify "year*," and by the numeral marks which express "seventeen." We have already derived an inference from Herodotus, that the makers and painters of the mummy-case formed a distinct profession: the labour of the embalmers terminated with the wrappings, on some of the parts of which they would probably place the individual's name, in order that he might be recognized among the rest in the embalming-shop, and that people might get their own mummies. A small narrow strip† formed of several pieces of cloth fastened together, and painted with the individual's name, was observed on taking the mummy out of its case. This strip seems to have been attached to the front and outer part of the mummy, when it was completed and ready to be delivered to the friends, who could thus at once recognize it out of a large number. It might very fairly be conjectured that the number seventeen expressed the individual's age, but in this instance it was impossible, as the man was certainly not young. Such an indication would also have been more appropriate on the case or coffin, where however it did not occur. A mummy opened by

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* See Discoveries in Hieroglyphical Literature, p. 160.

† See Minutoli's Drawings.

Mr. Pettigrew, at the College of Surgeons in London, had his name and title not only on the case, but also on a fillet of linen loosely folded round the legs, which was the first object that presented itself on opening the case. The name was repeated four times, with the omission in one instance of some of the symbols, on other parts of the wrappings. According to Mr. Pettigrew's version of the symbols, "the mummy was that of a priest of the Temple of Ammon, but that he was of an inferior order of the priesthood (an incense-bearer), and that his name was Horseisi, and the son of Naspihiniegor, of the same grade and profession."

The case of a mummy brought from Thebes by M. Cailliaud, contains a Greek inscription of about one hundred and forty-four letters, forming a narrow band on the whole length of the case. The inscription informs us that the individual was called Petemenon, alias Ammonius; was the son of Soter, who was the son of Cornelius Pollius: his mother was Cleopatra, the daughter of Ammonius. The age of the deceased was twenty-one years, four months, and twenty-two days: he died in the nineteenth year of Trajan, on the eighth of the month Payni. On a papyrus found under one of the wrappings of the mummy, the name Petemenon in Greek characters appeared, and a beautiful scarf, which formed part of the wrappings of the body, also had on it the initials *Am* in Greek characters. Thus all doubt was removed as to the body belonging to the case in which it was found by M. Cailliaud*.

A mummy-case, found at Thebes by Mr. Grey, also contained a Greek inscription, which was lithographed by the London Egyptian Society. A fac-simile of it is also given in the essay of Letronne (referred to in the note), in which the author ingeniously shows how he supplied the deficient letters in M. Cailliaud's inscription, by the help of Mr. Grey's, and a fragment of another mummy found at Thebes. It appears, in fact, that all the three mummies came from one tomb, and belonged to the same family.

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* Observations, &c., à l'occasion d'un zodiaque Egyptien peint dans une caisse de momie qui porte une inscription Grecque du temps de Trajan; par M. Letronne. Paris, 1824.

In the course of the remarks it has been assumed that the cloth used for swathing the mummies, is linen and not cotton. Yet many writers and travellers in Egypt speak both of linen and cotton cloths as used in the wrappings of mummies; and some contend that cotton cloth alone was used for this purpose. Though all the specimens that we have seen bear a much stronger resemblance to linen than to cotton, this external appearance cannot be insisted on as any proof either one way or the other. It is now well known that no test but that of the microscope is decisive as to this question; and that in all cases where it has been applied the structure of the fibre is that of linen and not cotton thread*.

Flax is probably one of the indigenous products of Egypt; it was cultivated and manufactured at least in that country as far back as we know any thing of the country itself. There is no proof, that we know, from monuments, and certainly none to be derived from Herodotus, that cotton was cultivated, or cotton cloth made in Egypt in the fifth century B. C. That the Egyptians, however, were acquainted with cotton even in the sixth century B. C., appears from the statement of Herodotus (iii. 47), who describes a thorax or coat of mail, sent as a present by Amasis to the Samians, made of linen, but ornamented with gold and cotton. The word used by Herodotus for cotton is tree-wool (*εἴρια ἀπὸ ξύλου*), and Nearchus †, who visited India about a century later than Herodotus travelled in Egypt, has no one word to describe the cotton dress of the Indians: he says that it is made of flax from trees (λίνου τοῦ ἀπὸ τῶν δενδρέων). That cotton may have been introduced and cultivated in Egypt after the Macedonian expedition to India seems probable: but authorities, which tend to prove that the plant was cultivated under the Roman emperors, or the times immediately preceding the Roman occupation of Egypt, must not be stretched to prove what they do not prove, that cotton was cultivated in Egypt under the Pharaohs. As the Egyptians obtained by commercial exchange cassia and cinnamon, which are undoubted Asiatic products, so we may conclude they received occasionally cotton and cotton cloths. In forming our conceptions of the nature of antient commerce, we must always bear in mind that at no date to which historical records take us back does the commercial intercourse of remote parts ever seem to have been compressed within narrow limits. In all ages and in all countries of which historical records exist, products have found their way from their native soil to the most remote people who have had any thing to give in exchange for them. And further we may observe, that in all countries, even at the present day, a wider range of commerce is indicated by the various and numerous products which enter into daily consumption than could be inferred from the evidence of written books. It is rather singular that Herodotus describes the mummy-cloth under the compound term, *byssine sindon* (βυσσίνη σινδών), neither of which words is the same as *linon* or flax (λίνον), which he describes in other passages as the material of the under vestment. Yet, if the historian is consistent, we must interpret *byssine sindon* to be linen, for he says that the linen garment worn by the living is also interred with the dead body; but the woollen vest is not. Further, if it is admitted that linen is the only cloth found about embalmed mummies, as modern investigation so far shows, we must, on this ground also, interpret *byssine sindon*, to be linen, provided it be admitted that Herodotus really knew what was the material of the cloths used about the mummies. The quantity of old, worn, and darned cloth that we find about the mummies shows clearly enough that the cast-off vestments of the living were collected (by the old clothesmen of the day?), and used for part of the wrappings of the dead. But Herodotus always uses the word *linen* when speaking of the under vestment of the living; and, therefore, the old vestments found about the mummies are, according to his account, linen also, which is confirmed by the evidence of the microscope. Further, there is no difference, but degree of fineness, perceptible to the eye, and none ascertained by the microscope, between the old clothes found about the mummies and the other wrappings. The whole evidence is, so far, decidedly in favour of linen wrappings being used about the dead, and no other*.

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* See chap. v.

† Arrian. Indike, cap. 16.

Herodotus speaks of the wooden case as being the next thing after the swathing; but we may fairly infer from his description, as we have before remarked, that the mummies of the poorer classes had no cases. This agrees with Belzoni's observation. "The lower classes were not buried in cases: they were dried up, as it appears, after the regular preparation of the seventy days. Mummies of this sort were about in the proportion of ten to one of the better class, as near as I could calculate by the quantity I have seen of both; and it appeared to me, that, after the operation of the nitre, adopted by the mummy-makers, these bodies may have been dried in the sun. Indeed, for my own part, I am persuaded it was so; as there is not the smallest quantity of gum or any thing else to be found on them. They have no ornaments about them of any consequence; and they are piled up in layers, so as to crowd several caves excavated for the purpose in a rude manner."

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* We have little or no doubt that *Sindon* is a word formed from Sindhus, the Sanscrit name of the Indus, and probably of the adjacent country. *Sindon* would then signify what came from the country of the Sindi or Indi. It is difficult to assign any reason for Herodotus using the word here in the sense of "linen", and not using it, as we conjecture he did not, in its true sense. But if we suppose the fine cloths generally had obtained the name of *sindon*, from the characteristic fineness of Indian imported cloths, we may conjecture that the word was applied by Herodotus to fine cloth, without regard to the material. The words *byssine sindon* are again used by Herodotus (vii. 181), where he is speaking of bandages applied to the wounds of a man: in this case also, it is presumed that the terms mean linen, which is a much more appropriate material for binding wounds than cotton.

Before the better kind of mummies were put into their wooden cases, they were placed in a shell, made (in the instance of the mummy examined in Bruton Street,) in the following manner: nine thick layers of hempen or linen cloth were well gummed together, so as to make a strong but flexible kind of board, something like a piece of *papier mâché*. This was formed into the shape of the swathed mummy, which was inserted in it, by means of a longitudinal aperture on the under side reaching from the feet to the head. The two sides of this long aperture were then drawn together by a coarse kind of stitching, apparently done with a large needle. Thin hempen cord, which was in tolerable preservation, was the thread used in this instance. The inside of this hempen case was covered with a thin coating of plaster, to which patches of Nile mud or a soft loam were found adhering. The outside was also covered with such a plaster, on which rude figures of beetles, ibides, &c., were painted, apparently with ochrous earths tempered with water. These were easily rubbed off with the finger, except where they were fixed by an outer coating of gum. On the upper part of this case a human face was represented as usual; and for the purpose of giving additional strength and firmness to that part of the hempen covering, a considerable quantity of earth and plaster had been stuck on the inside, so that it would be more easy to mould the material on the outside, while still flexible, into a resemblance to the human form. The face was covered with a strong varnish to keep the colour fixed. The head-dress was of the usual form, but there was no representation of the beard, which is generally found on the coverings of male mummies. The outer case in which this mummy was sent to the Society's rooms was a plain box of the Egyptian fig-sycamore, the parts of which were fastened together with wooden pegs. This wood was used by the Egyptians for a great variety of purposes, as we find even common domestic utensils made of it. The pegs of these sycamore cases are not always of the sycamore wood, which when cut thin would hardly be so suitable as some more closely-grained wood. In the mummy opened at the London University, the pegs of the inner wooden coffin were of a different wood, which was apparently cedar. This is also the case with bodies embalmed in the highest style of fashion, which have, in addition to the inner coffin which we have described, an outer wooden box, such as Herodotus mentions, with a human face, male or female, painted on it. Some of these cases are plain, and others highly ornamented with figures of sacred animals, or with paintings representing mythological subjects.

The wooden case which contains the body is sometimes cut out of one piece of wood, and the inside is made smooth, and fit for the reception of the painted figures by laying on it a thin coat of fine plaster. This plaster is also found used as a lining for the wooden cases which are not made of a single piece*. There is often a second wooden case still more highly ornamented, and covered with paintings secured by a strong varnish†. The general resemblance in the paintings on the exterior of these cases shows that they must refer to some general subject, and not merely to the individual; and the character of the subject depicted proves clearly that they are intended to embody the ideas of the Egyptians as to the state of death, the judgment or trial which preceded the admission into the regions below, and other matters connected with the ritual of the dead and the process of embalming.

The upper part of both the wooden cases is made to represent a human figure, and the sex is clearly denoted by the character of the head-dress and the presence or absence of the beard. Both the head-dress and the ornaments about the neck, as far as the bosom, are exactly of the same character as those which we see on the sculptures and the paintings. The brief remark of Herodotus, that the friends put the swathed mummy "into a wooden figure made to resemble the human form," is amply borne out. The exterior front part of the case below the bosom contains sometimes a representation of a seated female figure, generally called an Isis, with outstretched wings.

Mr. Grey found the coffin of a mummy, which was not made in imitation of the human form, as usual, but it was merely an oblong trunk, with an arched cover, and a pillar rising a little at each angle. On this coffin there was a Greek inscription to the following effect: "The tomb of Tphuto (or Tphus), the daughter of Heracléus Soter and Sarapus. She was born in the fifth year of Adrian our Lord, the second Athyr; and died in the eleventh year, Tybi the tenth, aged six years, two months, and eight days. She was buried in the twelfth year, the twelfth of Athyr." The interment in this case was ten months after the death*.

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* London University mummy; Leeds mummy.

† See specimens in the British Museum.

Herodotus says that the wooden mummy-cases, when deposited in the tomb, were placed upright on one end against the wall; and this is the position in which they could be most conveniently placed, in any chamber that is high enough to admit them standing. It will be observed, that the bottom of the mummy-case is flattened, and made to have a considerable base, which is effected by giving the bottom a projection in front large enough to receive the feet and all their bandages. As the object also was to have the best possible representation of the deceased, the standing position would be much more suitable for this, especially when the arms of the figure were represented on the external case, folded upon the breast with some symbol in each hand, as in the case of the Leeds mummy. The position of the painted figures on the case will not prove anything, since they are placed upright on the front of the case, so as to be best seen when the case is upright; but on the sides they are in a direction at right angles to those on the front, and of course would be best seen when the case was lying flat. In our modern museums and collections we generally find the mummy placed upright against a wall, which, as we have observed, would be the most convenient position. Belzoni observes that he never found a mummy-case placed in an upright position; but Passalacqua found one instance of a mummy so placed. "I found the mummies," says Belzoni *, "lying regularly in horizontal rows, and some were sunk in a cement, which must have been nearly fluid when the cases were placed on it." In one place Belzoni saw eight mummies, all lying in the position in which they were originally placed, and all facing the east. The cases were imbedded four inches deep in mortar. Belzoni, however, describes a *picture* of a mummy in a standing position, in what he calls the entrance-hall of the great tomb which he opened at Thebes.

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* Young's Discoveries in Hieroglyphical Literature, p. 115.

A tablet in the British Museum represents four mummies standing erect, that is, resting on the flat part which forms the bottom of the upper and under case towards the feet. Several females are approaching the mummies; some are crouched on their hams, in the posture usually observed in Egyptian paintings or sculpture, both before and behind, and embracing the mummies. This scene may possibly represent some periodical visit of the females of a family to the tomb of their relatives. One of the figures is either offering incense to the mummies or holding up a light to their faces—perhaps both at once.

The Museum contains a wooden case of a female mummy, purchased recently at a sale of Mr. Salt's collection, which is of an enormous size, being about seven feet six inches high, and about three feet wide in the widest part. The sides of the box and the sides of the lid consist of two thicknesses of wood, one within the other, closely fitting; and so far the case is like one box let into another which just receives it. The thickness of the sides thus formed by the two pieces is nowhere less than six inches. The bottom of the inside of the box or lower part is covered with a thin layer of pitch, on which the outline of a female figure is painted in yellow lines: the outer surface of the lid is also similarly smeared, and covered in the same way with painting in a yellow colour. The mummy which belongs to this case is gilded all over—at present it is not open to the public.

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* p. 167.

The face on this mummy-case is black, but various colours were used for the face on mummy-cases. Another outer mummy-case in the British Museum has a flesh-coloured face and black eyes. The surface of this case is covered with a thin coat of plaster, on which the colours are laid. There is generally more than one coating of the paint, for we may frequently observe that there is one thin layer under another. Wherever the carpenter or coffin-maker had left small irregularities in the wood, as about the head, these are all filled up, rounded, and made smooth with a fine plaster.

The last covering for the body was a sarcophagus of stone, which, as it would cause an additional and heavy expense, could only, we may suppose, be used for kings and wealthy people. Belzoni found a stone sarcophagus* at Thebes, with two mummies in it. There are several fine specimens of these stone coffins in the British Museum, and one near the door of the court-yard, just within the area. These sarcophagi consist of two parts, a case to contain the body, formed of one piece of stone, open at the top; and a lid to fit the opening.

There are two very large sarcophagi of a different material in the Egyptian room of the Museum, which deserve a more minute description. Both are at present without lids; they stand, one on each side of the gallery in which they are placed, and opposite to each other. That on the right (No. 23) is styled, in the Museum catalogue, "a sarcophagus of black granite from Cairo, used by the Turks as a cistern, which they called the Lovers' Fountain." The position in which this sarcophagus stood at Cairo may be seen in one of the drawings belonging to Sir Robert Ainslie*. It occupied a niche under the steps of a mosque, in one of the small squares of Cairo; and served as the basin of a fountain, called the Lovers', it being a popular belief that its water possessed the power of curing love. A large hole has been drilled in it on one end, at the lower part.

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* Sarcophagus (σαρκοφάγος) is a Greek word, literally signifying *flesh-eater*. Pliny (ii. 96, xxxvi. 17), who is fond of collecting marvellous tales, says it was worked at Assos in the Troad, and so called from its power to destroy human bodies. It has been conjectured that this is a calcareous stone, which is likely enough in a country which, like Asia Minor, abounds so much in all varieties of calcareous stone; but as to Pliny's authority to decide this matter, it is of no value at all. We do not know who first applied the term to Egyptian stone coffins.

This sarcophagus appears to be a species of basalt, or perhaps a breccia; but certainly differs in its material as well as its ornaments very much from its neighbour opposite. It has some sculptures upon it, which have sometimes been called volutes, from their supposed resemblance to this important part of an Ionic capital; though in truth we cannot discover this similarity. The intaglios upon it are less numerous than those on the larger sarcophagus, but many of them of a larger size.

The other sarcophagus (No. 10) is in every respect a much more curious work of art. It fell into the hands of the English, together with other valuable antiquities, at the capitulation of Alexandria. The French† found it, according to their own account, in the court of the mosque of St. Athanasius at Alexandria, under a small octagonal building, where it was a kind of object of adoration to the Musulmans, whose reverence, however, had not prevented them from making twelve large holes in the lower part of it, in order to turn it into a kind of reservoir or bath. The material of this sarcophagus is a breccia from a quarry in the Thebais, of a character similar to what is called in Italian *breccia verde*. Its principal component parts are rounded fragments of granite, and porphyry of the most brilliant and varied colours. The base is a deep green rock equally hard. Where the stone is polished it shows large spots more or less rounded, and producing a beautiful effect. The Egyptians have seldom used this stone, which is very difficult to work; and yet the sculpture is so fine that we see sometimes eight, ten, or twelve hieroglyphics in the space of a square inch. The superficies sculptured is more than one hundred feet square (Fr.), and the number of characters surpasses 21,700*. There is a beautiful drawing of this sarcophagus in the great French work on Egypt, which we believe to be very exact. A draughtsman was sent over from Paris, who took impressions of the figures in sulphur, and thus had the opportunity of ascertaining the number of figures with tolerable accuracy. The print will give a general idea of the appearance of the sarcophagus and the effect produced by such a number of small figures; but nothing short of a minute examination of it in detail can convey any adequate notion of the immense labour of working such a hard material, and of the ease and correct outline which many of the animal forms exhibit. This sarcophagus is rounded at one end and flat at the other; the rest of it has the form of a large box. The thickness of the material, measured across the flat rim on the top, varies in different parts: at the flat end it is about ten inches, in other parts about nine, in thickness. The length of the sarcophagus is about ten feet three inches; it is about four feet two inches wide at the feet; five feet four inches at the head; and about three feet nine inches high. It is sculptured both within and without, with various figures of men and animals; but the hieroglyphics in the inside are not so numerous as on the outside. A specimen of what one small portion contains is seen in this print.

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* Views in Egypt, from the original drawings in the possession of Sir Robert Ainslie. London, 1804.

† Egypte, v. pl. 39, 40; and vol. v. 8vo. Descript. p. 373.

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* On the authority of the French work.

On this sarcophagus we recognize the *scarabæus sacer*, or the African scarabæus, found, among other places, on the Barbary coast. He is distinguished by his radiated clypeus, which is distinctly marked in one of the specimens on the stone. Here we have also a specimen of a human figure with a beetle's head. The various animals represented on this and some other monuments of the Museum have been cut on a block, and will be discussed in a separate chapter. The sculptures on the outside cover about eighty-two square feet.

Dr. Clarke * wrote a dissertation to prove that this was the sarcophagus in which Alexander's body was placed. Those who are curious to see his proofs must read his essay. We shall state briefly the chief facts of the funeral of Alexandef, premising that though it is within the limits of possibilities that the sarcophagus may, at some time, have contained the body of Alexander, we do not think that this can be satisfactorily established. It appears almost demonstrable that the sarcophagus was not originally made for him.

Alexander died at Babylon, where his body was embalmed, either in the Persian or Egyptian fashion. Arrhidæus † employed himself for two whole years in preparing the magnificent vehicle which was to convey the body to Egypt. Diodorus has given a minute description of the splendid car and all its ornaments. The body, as Diodorus informs us, was enclosed in a case of wrought gold; and over the upper part of

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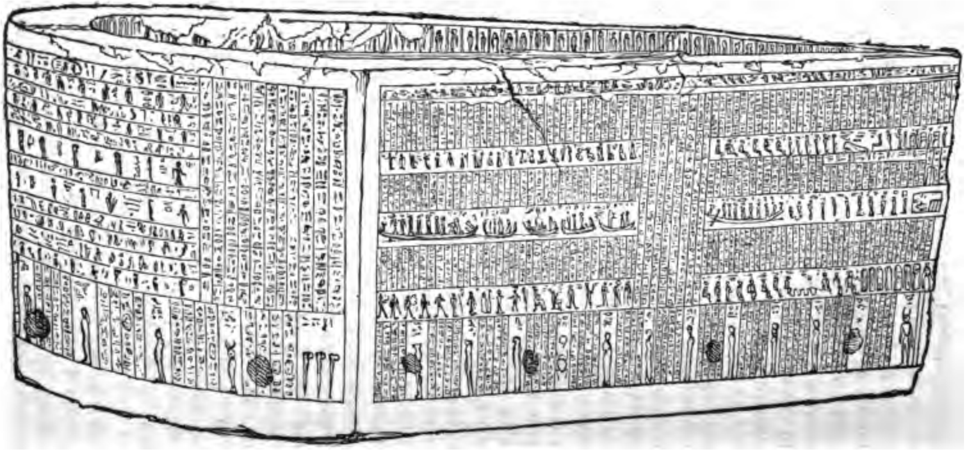
* See Clarke's Tomb of Alexander.

† See Diodorus, xviii. p. 641. H. Stephens.



No. 10.

this case a golden covering (καλυπτὴρ) was fastened. When the procession had reached Syria, Ptolemy, the son of Lagus, met it with an army, took possession of the body, and instead of conveying it to the temple of Ammon, its original destination, carried it to Alexandria. Here he constructed a témenos, worthy of the hero, both for its extent and for the buildings which adorned it; and here he deposited the body of the Macedonian king, who was elevated to the rank of a hero, as being the founder of the city, and honoured with sacrifices and periodical festivals. The policy of placing the body of Alexander in the new capital of Egypt was shown by the effect which it had in enabling Ptolemy to rally his soldiers round the remains of their great commander, and to resist successfully all attempts to dislodge him from Egypt.

According to Strabo*, the body of Alexander was deposited in that part of the palace, called Soma (the body), which contained the tombs of the Ptolemaic kings of Egypt. When Strabo was in Egypt, the body, he says, was still in Alexandria, but not in the same case (πύελος). There is no reason to think that he saw the body, so far as his remarks show. Its original case, which he ascribes to Ptolemy, was of gold; the second case was of glass. The golden one was stolen by Ptolemy, surnamed Cocces, who invaded Alexandria from Syria, but was soon ejected. How long after this accident the body might be without a case we do not know.

When Augustus took possession of Alexandria, after the death of Antony, he ordered the body of Alexander in its case to be brought from the tomb. He placed a golden crown on the corpse, scattered flowers over it, and paid adoration to the great founder of the city. This may be viewed as an act of superstition, or of policy, or of either combined with curiosity.

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* Book xvii. p. 794. Casaub.

The body of Alexander appears then to have existed at Alexandria to the time of Augustus; and, what is not surprising, the tradition of his tomb being at Alexandria continued to the time of the French occupation of Egypt, at the close of the eighteenth century*. After the body was turned out of its tomb and destroyed, whenever that might be, it was natural enough for the tradition to attach to one of the most curious remaining monuments of antiquity, the large sarcophagus of the Museum, which the city of Alexander contained within its walls. But there is no proof worth the name of proof, that *this* sarcophagus contained the body of Alexander. The Ptolemaic kings of Egypt were embalmed and buried in the same building, as we learn both from Strabo and the remark of Augustus, who being asked if he wished to see the bodies of the Ptolemies, said, that he was satisfied with seeing that of Alexander—he "wanted to see a king, not mere carcasses." The sarcophagus then might have belonged to any of the Ptolemies, as well as to Alexander, to say nothing of the objection as to Strabo's assertion that it was made of glass, not of stone. A further objection has been made to the supposition of this sarcophagus having belonged to Alexander, since phonetic values have been assigned to many Egyptian symbols. The name of Alexander, as it occurs on Egyptian monuments, is not the same as the name which frequently occurs on this sarcophagus: the name on this sarcophagus has been read, whether right or wrong makes no great matter, to be that of Amyrtæus, the Saite who reigned from B. C. 414 to 408. It is unlikely that Alexander would have been placed in a second-hand sarcophagus, and still more unlikely that he would ever have been placed in any sarcophagus which bore the name of another king, and does not bear his own.

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* See Clarke's Travels, vol. v. p. 336.

It has just been mentioned that the name on this sarcophagus has been read as that of Amyrtæus. Champollion made it the sarcophagus of Arthout, B.C. 1170. Seyffarth fixes its date from his astronomical interpretation of the symbols, at B.C. 1631, and says, that it belongs to Sethos, Sesostris, Thuoris, Memnon, or Menelaus, the first king of the nineteenth dynasty, who was born at the date just given, and whose names appear in every part of the sarcophagus.

We must not omit to give the testimony of Leo Africanus *, which shows that in the sixteenth century of our æra the tradition above referred to was in full vigour. "In the midst of the rubbish of Alexandria there is a small building like a chapel or shrine, which contains a remarkable tomb, that is held in great veneration by the Mohammedans. They say it contains the body of Alexander, a very great prophet and king—so it is written in the Koran." The Mohammedans have plenty of authority just as good for proving abundance of facts quite as true.

There is in the Museum a stone sarcophagus, marked No. 39, and described in the Museum catalogue as "a stone sarcophagus, discovered in a tomb at Thebes—the paintings on it have been restored." Some of the colours leave the stone on being slightly touched with the moistened finger, and the reds and yellows appear merely fixed on with water: this may be the restored part. In other parts there is a varnish on the stone, no doubt original, of a dirty white colour, which in several places is peeling

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* Book viii.

off in a single flake, like a coat of oil-paint. The colours that are on this coating come off with it.

A sarcophagus in the British Museum, made of a very compact dark stone, is a beautiful specimen of Egyptian workmanship. It is not numbered, but from its position must be called No. 32. It consists of an upper and an under piece, and in form differs little from other sarcophagi; but it is characterized by an extreme degree of polish. It has few figures upon it, and no grooving to represent the hair, or any other elaborate work about the head and face. The features of the face, with the ear and beard, are carefully represented in high relief. The only sculptures upon it are three vertical bands of hieroglyphics on the upper surface of the lid, reaching from just below the chin to the feet. On each side of the triple vertical band, and about the part corresponding to the region of the belly, are two standing figures—the four deities so often represented—turned face to face. At the feet of the mummy, and just below the triple band of hieroglyphics, are two foxes (jackals ?), in the usual reclining posture in which they appear on Egyptian monuments, facing one another. The length of this sarcophagus is about six feet seven inches, and the greatest width about two feet. At the head-part, the upper and under portions of the sarcophagus fit exactly, and the whole of this part of it is most beautifully rounded and polished. But at the feet only the flat end of the upper part is polished: the flat end of the box, or lower part, is not only from an inch to an inch and a half longer than the upper, but it is left quite rough, and was evidently never finished. The back part of this sarcophagus (that on which it now rests), is quite flat and polished smooth: this flat part corresponds in position and form (differing only in thickness) to the vertical rectangular pillar to which Egyptian statues are attached by their backs. And this circumstance seems rather to confirm the notion of sarcophagi of this kind being sometimes placed erect, as we indeed see them represented in Egyptian tablets. A sarcophagus of this description is in fact a mummy-case represented in stone instead of wood, with all the roundnesses that mark the form of the body and the projecting part that indicates the feet; thus the fulness and roundness of the chest and shoulders are represented on the upper case, and the roundness of the sides, and of so much of the back part as is visible, on the lower case.

Another sarcophagus (No. 3), opposite that just described, is a light-coloured calcareous stone, and belonged to a female. In form it does not differ at all from the other, except that the lid and box fit exactly, being precisely of the same length. This sarcophagus contains no sculptures, except five vertical columns on the surface of the upper lid, reaching from just below the lappets of the head-dress to near the feet. Traces of gilding appear on the face and ears, but nowhere else, so far as we observe. The dimensions are somewhat less than those of the other sarcophagus, No. 32.

The Museum contains a third sarcophagus of the same form, but of coarser execution, and broken.

Sarcophagus (No. 86), of which only the under part remains, is a sarcophagus of large size made of a fine-grained basalt, with a band of beautifully cut figures running all round near the margin. In the flat part, at the foot of the sarcophagus, the band is interrupted by a fractured portion, which rises above the plane of the stone, and shows that there was here some ornamental part in high relief. On this band, the owl, quail?, eagle, and ibis, are cut with most excellent art.

A sarcophagus of red Egyptian granite (already mentioned) stands on the right as you enter the court-yard of the British Museum. It consists of two parts, an under and an upper part, and may be compared to a large box with a moveable lid rounded on the upper surface. The length of this sarcophagus is about seven feet six inches; its greatest breadth, which is about two feet six inches, is at that part which corresponds to the shoulders of the enclosed mummy. Along the edge where the cover fits to the box, the under margin of the lid and the upper margin of the box are respectively cut, so as to fit into one another, like a common box with a lid; except that in the sarcophagus the box or lower part receives the upper. The whole exterior, except the bottom, is covered with sculptures. The lid contains on the upper and outer surface the usual figure of a mummy, with the hands crossed on the breast and each holding a sacred symbol. The face, hands, &c., are in high relief: other sculptures of animals are formed by deep incisions in the stone; and in some cases, they are the intaglio rilevato, already described (vol. i. p. 382). The lid terminates at the bottom in the usual rounded projection which receives the feet of the mummy, just as we observe in the wooden and hempen cases. At the upper extremity, where the head of the figure is, the sarcophagus is rounded: indeed, roundness is the general character of the whole, both box and lid, except the bottom of the box on which the whole rests and the flat end at the feet.

Abdallatif, whom we have so often quoted, gives some additional information about mummies which is well worth noticing*. The trade in the products of the tombs was as vigorous then as it is now. The Beduins and other Arabs made their clothes out of the wrappings of the mummies, or sold them to the paper-manufacturers to make paper out of them for the use of the grocers and spice-dealers. Besides the mummies that were found in wood and stone coffins, he speaks of others found in vessels of honey. "A man of veracity," says the Doctor, "assured me that he and his friends, while looking for treasures near the pyramids, found a vessel well sealed, which they opened and discovered to contain honey. While they were tasting it, one of them remarked a hair that stuck to his finger: he pulled it and they saw a child appear, with all its limbs adhering together, its body quite fresh and ornamented with jewels."

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* De Sacy, p. 198, &c.

This story, though it may appear very strange, is not without probability. It is true we have no account of the Egyptians embalming bodies in honey; but there was a practice in Persia not unlike it; as we learn from Herodotus*, who says, "the Persians smear a body all over with wax, and then place it in the ground." Strabo† tells the same story, probably only copying Herodotus: but again, in a second passage, speaking of the Assyrians as having many rites in common with the Persians, he adds, "they put their dead in honey after having smeared them with wax." That the antient Persians embalmed the bodies of their great men, is believed by competent judges; and a Persian writer says, that the substance called artificial mummy is found in those stone vessels in which the bodies of great men were preserved by means of honey. We may remark, that as Alexander died in Babylon, and his body was brought to Egypt, and finally deposited at Alexandria, some process of embalming must have been known at Babylon (the antient Assyrian capital), and probably was in use on great occasions.

The mention of the word "mummy" leads us to the consideration of the term "mummies," now commonly given to the embalmed bodies found in Egypt. "We find," says Abdallatif, "also in the belly and the cavity of the brain the substance called *momie* in great quantities. The country people take it to the town, where they sell it for a trifle. One of the dealers in this drug showed me a wallet full of it. I remarked that this matter had penetrated into the bones, which were so filled with it, that they seemed to be part of the momie. The momie is black, like bitumen. When exposed to the great heats of summer it melts and sticks to any thing that is near it. When thrown on burning charcoal it swells and exhales a smell like that of bitumen or white pitch (pine-pitch probably is meant). It is the common opinion that this momie is a mixture of white pitch and myrrh."

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* i. 140. † p. 735, 746.

There is also a natural substance called mummy, of the quality of mineral pitch. Sir W. Ousely, in his travels in Persia (ii. 117), describes a mountain called the Mummy mountain, between Fesa and Darabgherd, in the cavities of which is produced a blackish bituminous stuff called mummy. It oozes from the rock. Sir W. Ousely adds, "D'Herbelot seems to have confounded this production of the rock with the artificial or human mummy, of which, however, the Persians are not ignorant." This mummy is common in Persia: it is found, among other places, near Lar. "Mummy," according to Sir Wm. Ousely, is "Mum i ayi," the "wax of a village called Ayi," which is near the mummy cavern. Perhaps it is sufficient to know that *mum* means wax, or a resinous substance, without connecting it with the village Ayi, and that from this word is derived our common name for embalmed bodies. We are not aware that the Egyptians had any word for an embalmed body but *Gabar* *, which is said to be the same as the Hebrew *Kabar*, which signifies "arranged," "put together." The Greek words used to express this notion all contain the element of ταριχεύω, which has no reference except to that part of the process which consisted in the use of salts.

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* Augustin. Serm., 120, 12, quoted by Bohlen, in "Das Alte Indien," ii. 183.

The practice of embalming was not peculiar to Egypt. It was practised among many nations of the old world, and is in use among some people even at the present day. In New Zealand the heads of chief men are now embalmed with great skill, and specimens have several times been brought to this country and exhibited. People are often ready to form very hasty conclusions as to affinities between different nations, when they detect similar usages of a striking character; such as the following:—"The Birmese* priests are embalmed exactly in the Egyptian fashion. The intestines are taken out of the body, the cavity of which is filled with spices, and the whole is protected from the external air by a covering of wax. The arms are then placed on the breast, the body is swathed in bandages, varnished with gum, covered with gold leaf, and at the expiration of one year it is burnt; the remains are then placed under a pyramidical-formed building." It may be curious to compare with this, part of the mode of interment among the antient Scythians. "When the king dies†, they smear his body all over with wax, after having opened it and taken out the intestines. The cavity is filled with chopped cyperus, pounded aromatics, parsley and anise-seed, and then the incision is sewn up."

We believe there are no traces of embalming among the Greeks before the Macedonian period. Agesilaus, the friend of Xenophon, who died in Africa, was preserved in melted wax, for the sake of being carried home to be interred. (Plutarch, Life of Agesilaus.) Wax, it is said by Plutarch, was used by the attendants of Agesilaus because they had no honey.

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* Bohlen, ii. 182.

† Herod. iv. 71.

There was a curious ceremony before interment, for the knowledge of which we are chiefly indebted to Diodorus*. "When a body is going to be interred, the relations give notice of the day of interment to the judges, and to other relations and friends of the dead, saying that the deceased is going to cross the lake. Upon this the judges assemble, more than forty in number, and take their seat in a semicircular kind of place, on the further side of the lake. The boat (βάρις) is put into the lake, having been first prepared by those whose special duty it is to attend to it. The captain of the boat is called in the Egyptian language, Charon. But before the wooden chest, containing the body, is placed in the boat, the law allows any person who chooses, to bring his accusation against the deceased. If then the deceased is convicted of having lived a bad life, the judges give sentence, and exclude the body from the usual rites of interment; but should the accuser fail to make good his charges, he is punished with a heavy fine. If no charge is brought against the deceased, his body is placed in the tomb that has been prepared for him, whenever the party is of such a rank and importance as to have a sepulchre of his own. Those who have no place of interment add a small apartment to their house, in which they place the mummy-chest in an upright position against the wall. But those who are debarred from interment, on account of charges made good against them, or for leaving debts behind them, are placed in their own houses. At some future time some of their descendants who happen to grow rich, pay their debts, and clear them of all the imputations brought against them; and then they are interred with all proper ceremony."

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* i. 92.

There was another practice, rather a singular one, for which we have the testimony of Herodotus *, as well as Diodorus. It was common in Egypt for a man to give the bodies of his parents or ancestors as security for money borrowed. If he did not redeem this sacred pledge he lost his character, and also the privilege of interment. To this, Diodorus adds some remarks, which are worth giving in substance. He admires that institution of the Egyptians by which they sought to make men practise a virtuous life, not only by motives derived from associating with the living, but also by the treatment which they would experience when dead. The Greek mythological system of rewards to the virtuous and punishment to the bad, is quite inefficacious towards producing a good life. But in Egypt, where the rewards of the good and the punishment of the bad are *seen*, all people are daily reminded of the consequences of their actions, and hence the general character of the people is improved.

In this institution of the death-judgment, which was no doubt a powerful instrument in the hands of the priests, we see some attempt at an important civil object. Interment, according to the prescribed form, was a ceremony in the Egyptian religious system that no man would like to be deprived of, as indeed it is in that of all nations. In Egypt the fraudulent debtor was excluded from the benefits of this last sacred rite, with the view of influencing men in their conduct in life by the infamy that would attach to them after death. This custom, whether good or bad, was at least more reasonable than the practice, lately abolished in England, of depriving suicides of all the usual rites of burial.

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* Herod. ii. 136; Diod. i. 93.

Another remark of Diodorus we ought to quote, especially as this writer is not remarkable for saying good things. "Many Egyptians keep the bodies of their forefathers in costly decorated tombs, and thus have the opportunity of seeing their ancestors for many generations past. The stature, form, and character of the countenance of the dead being thus before them, make a wonderful impression on the mind (*παράδοξον ψυχαγωγίαν*)[*]. It is almost as if their ancestors were living with them." What might be the moral value of this custom we shall not venture to determine. A modern collection of family portraits is the same kind of thing, yet different in its degree. The resemblance to the dead is more exact, but the notion of their presence is not so strongly impressed as by the Egyptian practice. Herodotus[†] mentions in his time a somewhat different use that was made of these representations of the dead, which, however, is not at all at variance with the notion of Diodorus. "In the entertainments of the rich, when the feast is over, a servant carries round a wooden figure of a corpse, in its case, an exact imitation, both as to form and colour. This figure is about one foot and a half, or two feet long. Holding it before each of the guests, he says, 'Look at this: drink and be merry, for such you will be when you are dead[‡].'"

Herodotus does not mention the death-judgment; but we cannot, for that reason, consider it as a custom introduced posterior to his time. The evidence of the monuments would seem to show that it was part of the genuine religious system; but how many changes were gradually making in the Egyptian ceremonial we cannot decide. This boat containing the representation of a body in a mummy-chest continually recurs on the papyri*, the tombs, or grottoes, and the temples, and therefore we must acknowledge Diodorus' account to represent a genuine practice. Supposing this to be the case, the body must have been really taken across a lake or pond as part of the funeral rites, and therefore there must have been such a lake in each nome, or near each temple. We find, in fact, at the present day, traces of such pieces of water near many temples, and it would be easy to collect from Herodotus a great variety of passages to prove this point. It is observed in the French work (v. Antiq. Descript. p. 176), "we found basins (similar to that described by Herodotus at Sais) in all the more considerable ruins of Upper Egypt, at a short distance from the temples and palaces†."

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[*] Si coram Lepidis male vivitur, &c. Juvenal, viii. 9.

[†] ii. 78.

[‡] Plutarch, who was not very particular about accuracy, when describing this custom calls the figure a skeleton (Σκίλιτος), though he probably copied his account from Herodotus (Symposion).

We do not mean to say that the only use made of these tanks was to ferry the dead body across, to receive judgment previous to interment. On the tank at Sais the sufferings of Osiris were represented by night. (Herod. ii. 171.) They also doubtless supplied water for the various services of the temple, and for the four daily ablutions practised by the priests‡, who seem to have been as zealous as the followers of Brahma in keeping their persons free from all impurities.

Even the kings themselves were not exempt from a similar judgment to this just described, before they could be placed in their sepulchres; which were not always in a remote and sequestered place, like the valley of Bibân el Molouk, but even within the precincts of the temples. Thus all the Saite kings were buried near the temple of Athenæa, and within its enclosing wall. Here also was a tomb of Osiris.

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* See Denon, pl. cxxxvii. Heeren, Egypt (note, p. 202), remarks correctly that this boat must not be confounded with the vessel of Ammon.

† It has been suggested that the *conveyance* of dead bodies to the place of interment must have been generally a work of necessity, as the tombs are seldom in the cultivated parts, but in or near to the deserts.

‡ Herod. ii. 37.

To* make this somewhat more intelligible, it should be recollected that the Egyptians believed in a future state of existence and in the immortality of the soul, though this religious idea was probably not comprehended in the same way by all, and might from time to time undergo some modifications. The existence of the soul or of the human being after death was supposed to depend on the preservation of the body. We seek not for the historical origin of the practice of embalming,—which might depend partly on local or physical peculiarities, partly also might have its rise in the desire so natural to man of keeping some visible memorial of those whom he most loves, and very probably might even be confined to some of the higher castes;—we merely state that in the course of time the idea of the preservation of the body being essential to the future state of existence was at least a popular belief. Hence as the Egyptians had deities of the upper world, so they had those who presided over the world below; and these were Osiris and Isis. Perhaps Serapis, at a later period, usurped the judicial functions of the first husband of Isis. The dead were only admitted into these abodes of rest and tranquillity after they had stood their trial before the judge below; and thus it seems that from the practice of the judgment before interment arose the notion of another judgment before admission could be secured into the happy abodes of the new existence. Such judgments are sometimes represented on rolls of papyrus, and there is one to be seen on the case of a mummy in the British Museum. In Denon

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* Heeren, Egypt, 192, &c.

(pl. cxli.), there is a representation of such a trial, which Heeren, differing from Denon in his interpretation, explains more satisfactorily in the following manner:—"Osiris is sitting as judge, with his usual attributes (the high cap, the flail or whip, and the crosier). Before him is a lotus flower, the symbol of immortality, and a lioness, perhaps as the guardian of the lower world. A small human figure is being weighed in a large pair of scales by two figures, one with a dog's head, the symbol of gross sensuality, and the other with the head of the hawk, the usual mark of divinity. Both figures have their hands on the beam, and seem to be addressing Osiris. Before the judge, and behind the lioness, stands Hermes or Thoth with a writing tablet, in which he is entering the vices and virtues of the deceased. According to this explanation, the object of the trial was to decide whether or not the new comer should be allowed to stay in the kingdom of the dead." There are other figures in this picture which Heeren does not profess to explain; nor do we. One is a small figure seated on the bent part of a crosier, which is in a vertical position.

The Egyptians, we have remarked, believed in the immortality of the soul, which was connected with the preservation of the body. But when the body decayed, the soul lost its place in the regions of happiness, and during 3,000 years went through all forms of living creatures until it came again into a human figure; but not the original* figure, for that had disappeared, otherwise the transmigration would not have commenced. But how, it is asked, is this to be reconciled with the care that they took to embalm the bodies so as to be almost imperishable? There appears to us no contradiction in this. It was the object of the Egyptian to avoid this long transmigration of 3,000 years, which would be so much lost from the period of existence in the lower world,—the most valuable period of existence, according to Egyptian notions,—for the life on earth was only a passage to another of longer duration. After a second probation in this world, and after suffering all the miseries of the 3,000 years, the owner of the decayed body could only attain the same place that he had lost. The object, then, of such a careful preservation of the body was to avoid the calamity alluded to. It is possible also that the deprivation of the usual mode of interment might be considered as an equivalent to a sentence of destruction against the body, and as the commencement of the cycle of 3,000 years. Thus after repeated efforts the impure might be purged and admitted into the presence of Osiris, and to the tranquillity (for that was the happiness) of the other world. Such a speculation as this is endless, and nothing is easier than to raise objections against it, as being in parts inconsistent with other religious notions attributed to the Egyptians. But who looks for complete consistency in such matters?

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* Herodotus says "a human form," by which he certainly oes not mean the original form.

In Rosellini (M. C. cxxvi.), there are several representations of the swathing of mummies: in one picture (No. 4), a man appears to be giving the last touches to the painting on the face of a mummy. The same work contains two beautifully coloured drawings of the complete mummy lying on his bier (M. C. cxxix. and cxxxiv.) In the first, the mummy is lying on a black couch, which has the legs of a lion; the body and legs of the couch are black; there is also a lion's head, painted yellow, at one end of the couch, and a yellow tail, terminating in a black tuft, at the other end. The head-dress of the mummy is painted blue, his face is red, and the chin terminates in the long black artificial beard, which is curved at the end. This kind of beard often occurs in the paintings and on the mummy-cases, but we do not know that it ever occurs on the mummies themselves. The mummy is richly ornamented on the chest with the regular painted lines, in imitation of the necklaces worn when living. Anubis stands by the mummy, on the body of which he places his hands. The body of Anubis is red; his jackal's head black; a blue head-dress hangs down on his chest and shoulders. Under the mummy we see the four yellow vases, with the four heads on them as above described. A goddess stands at each end of the couch: each figure differs only in a certain ornament placed on the top of the head-dress; one is called Isis, and the other Nephthys.

In the second picture, the mummy is also lying on the lion-shaped couch, and Anubis, with the black head of the jackal, stands by him: here the four vases are not represented. The mummy, together with Anubis, and several series of hieroglyphics, are all enclosed in a kind of frame-work, surmounted by the usual cornice of an Egyptian building, and the cornice is surmounted by a triangular member or pediment, in the centre of which is a human figure, apparently a mummy, represented as far as the waist, and on each side of it a black jackal couched: from all this we may, perhaps, conclude that the mummy is represented as placed in its tomb. In this picture we observe what occurs not unfrequently in Egyptian figures of this kind: a figure, with the body and claws of a bird, but with a human head and a pair of arms, hovers over the face of the mummy. In each hand the figure holds a different kind of symbol, but we cannot give a name to either: this winged figure may possibly be symbolical of the soul of the deceased.

In a funeral procession (cxxix. No. 1), we see, beginning at the left hand, a number of women, with their black hair hanging on their shoulders, the breasts bare, and their clothes fastened round the body below the breasts, and hanging down to their feet. One of the females has her breasts covered: all are painted a kind of pink colour, and all have the right hand placed on the head, and the left arm hanging down. In front of them are several men, who appear to have their lower vest tied just below the navel, while the upper part of the body is bare: this, however, owing to the nature of the drawing, is not quite certain; they have at least sleeves on their arms coming down almost to the elbow. All have the left arm hanging down, but slightly advanced: some have the right hand placed under the chin, and some upon the head. The two foremost men are each making an offering to a standing mummy, which is resting on the kind of pedestal formed by the bottom of the case, and is also supported by an Anubis, who stands behind and embraces the body of the mummy. In front of the mummy, and kneeling at its feet, is a female, probably the wife, with bare breasts, and her vest tied just below them as in the female figures already described: her hair hangs on her shoulders, but seems to be tied with a kind of riband at that part where it touches the neck. Her right hand is on her head, and with her left she embraces the knees of the mummy. Behind the Anubis is an upright table, containing at the top some hieroglyphics, and beneath them a deity seated, and a human figure on his knees before him. Below the two figures are a number of horizontal lines of hieroglyphics. In the extreme right of the picture there is a building, with a door in the centre; the building is ornamented with a cornice, above which rises a tall triangle or pediment, on each side of the apex of which a large eye is painted. Close to the door of this building we see a rock painted red. The design is apparently to indicate that the door-way is the entrance to the tomb in the mountain rock. We are inclined to conjecture that the mummy was attended in this the final part of the ceremony of interment by a priest or minister of the temple, with a mask on, formed like a jackal's head. Other pictures in Rosellini show the body borne in biers of various kinds, one of which (M.C. cxxviii.) represents a mummy, placed in a large bier, which rests on a boat or canoe, and the whole on a sledge drawn by four bulls or oxen: the boat is furnished with a rudder, and is probably on its way to the lake. A female and male figure, in the attitude of mourners, follow the bier. In M.C. cxxvii. No. 3, there is another picture of a mummy in a bier, the whole being placed in a boat resting on a sledge with wheels: this boat is furnished with a pair of oars, each of which is attached at the upper end to an upright post near the stern of the boat.

No. cxxvii. is a very singular picture. Beginning at the extreme right we see a kind of canoe or boat resting, as in the other instances already described, on a sledge. Upon the boat there is a rectangular case or bier, the height of which is much greater than the width: to each side of it two loti? are attached. On a small pedestal, in front of the bier and resting on the boat, is a black jackal, seated in the usual attitude, which may be seen on various monuments in the Museum, with his head turned towards the forepart of the bier. The sledge is drawn by four cows, each of which has a kind of horse-cloth on her back. The horns of the cows are painted black, or rather perhaps are artificial: between the horns is a disk, the whole of which is red, with the exception of a yellow ring, which encircles the red part. Above the disk rises the ornament, not uncommon in Egyptian head-dresses, which is probably composed of feathers. Two men, with black bushy heads, stationed between the head of the sledge and the tails of the cows, hold the rope by which the sledge is drawn; and a third figure, with a shaven head, is driving the animals. In the extreme left of the picture a mummy is represented, supported by a male figure, in long white garments, who stands behind the mummy and supports it with one hand, while the other arm is thrown round it. The head-dress of the mummy is blue, the face yellow, the beard black, and all the rest of the body quite black. A red ribbon thrown over the head hangs down and crosses in front. Before the mummy, and squatted at his feet, is a female figure completely naked, with her long black hair hanging down to the middle of her back. Her left hand rests on the feet of the mummy, and her right hand is raised as high as her face. Immediately behind this female, and in front of the cows, is a male figure, dressed exactly like the figure which supports the mummy. He appears to be pouring a vase full of water on the head of the mummy: the water, or whatever it is that issues from the vase, is painted red*. Nineteen vertical rows of hieroglyphics, the rows being of different lengths, stand over the picture, occupying the upper part of the picture, which otherwise would be blank, from the extreme right to the extreme left. These hieroglyphics are all painted, and we may observe that the same colours are throughout carefully assigned to the same symbol.

In no instance do we find horses employed in drawing the bier; at least we have observed none. If we may judge from the expensive decorations of some of these biers, and from the whole character of the interment, it would appear that, besides the expense of preparing the body, a large sum must have been expended, as is often the case in modern times, in that part of the ceremony which consists in removing the body to the place of burial.

In some drawings (see Rosellini, M. C. cxxxiii.) we see the mummy conveyed in a boat, and towed along by another boat with sails, to the stern of which the head of the boat conveying the mummy is lashed. In other instances we see females, with breasts bare and their hair loose, conveyed in boats to attend a funeral: in one instance (M. C. cxxxi.) the mummy is standing upright beneath a canopy: a number of females are lamenting before it; one of them, who is on her knees in front of the mummy, with one hand on her head, and the other on the feet of the mummy, seems in good earnest; the other females are acting, and are only hired mourners.

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* It may be wine.

In the grottoes of Eileithuias* there is a representation, in painted bas-reliefs, of a funeral ceremony. The story is told in five distinct compartments. In the uppermost, two men are carrying a box on a lion-shaped bier, under which there is a child, and in front of them a woman wrapped up in drapery and seated on a sledge drawn by two men, preceded by another man: the child and woman may be the son and wife of the deceased. To the right is a sledge drawn by two oxen, which are fastened to it by a cord: two men who stand near the sledge are holding up the rope to prevent it from dragging, or perhaps with the view of helping the oxen; immediately behind the oxen is another man, also holding the rope, and apparently directing the animals. Between these figures is a group of six persons, alternately men and women, who are performing the part of mourners. A man stands on the sledge with a roll of papyrus in his hand: a man in front of him, with an urn in his hands, is pouring water on the other's feet.

Three men, with the high cap on their heads, supposed to be priests, meet the oxen: in the second compartment two boats, moved by oars, and each with the double-oared rudder, are moving towards the left. In the middle of each boat is a chamber, on which are two figures seated, wrapped in swathing-clothes. The steersman Charon is at the helm. On the other side of the lake is a man, quite naked, whom two other men are drenching with water. Farther on to the left is a dead body, lying on a lion-formed bier, swathed in mummy style; near him is a man who holds in his hands a roll of bandages, whence he is conjectured to be the swather. A female is weeping at the feet of the corpse: three women seated behind her are conjectured to be hired mourners. All the women in these compartments, with the exception of the one enveloped in clothing, have their bosoms bare, and their garments fastened round the body below the breast. The men mourners and the little child have their clothes in the same attitude. This agrees partly with the statement of Herodotus (ii. 85), but he appears to limit the mourning to the relations of the deceased, and gives no intimation of hired mourners: also he makes the ceremony of running about with breasts bare, and smearing the head and face with mire, immediately follow the death* and precede the embalming.

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* See the description by Costaz, vol. vi. Antiquités, 8vo ed., and the engraving.

Next to the mummy on the bier we see a man, with a knife, who appears to be performing some operation or ceremony on the mummy, which is now placed upright on one side of the temple. Here we see also a ground-plan of the temple, with two priests in the court. At the extreme left of this compartment is Osiris, with Anubis.

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* Compare Exodus, xii. 29.

CHAPTER IV.

TOMBS.

A SHORT notice of some of the chief burial-grounds and tombs in Egypt is necessary. For more information we refer to the authorities cited in this chapter.

Among the most extensive burial-grounds in Egypt were those in the neighbourhood of the pyramids of Jizeh; and indeed, for some distance to the south beyond Abousir, one great cemetery seems to have extended. The proximity of the antient capital Memphis, now partly occupied by the village of Mitrahenny, is sufficient to account for the innumerable sepulchres which spread over a space many miles in length. At Jizeh these mausoleums run north and south of the pyramids, and are found also in their immediate neighbourhood as represented in our plan*. Captain Caviglia laid open several of these constructed tombs, which were found to be built of large stones, and generally in an oblong form, with the walls slightly inclining inwards from the perpendicular. The roofs were flat, with a parapet of stones round them. The entrances, which are sometimes door-ways, in other cases merely square holes, have been made only on the north and east, with the view, as it is conjectured, of keeping out the sand, which is blown from the Libyan desert. The first edifice, that Captain Caviglia opened, had the walls covered with stucco, and adorned with rude paintings. Fragments of mummies, with their cases, were also found here. A second edifice contained no paintings, but some fragments of statues, of which one specimen, a figure in the act of walking, with the left leg extended, is now in the Museum. (See p. 18, No. 35.)

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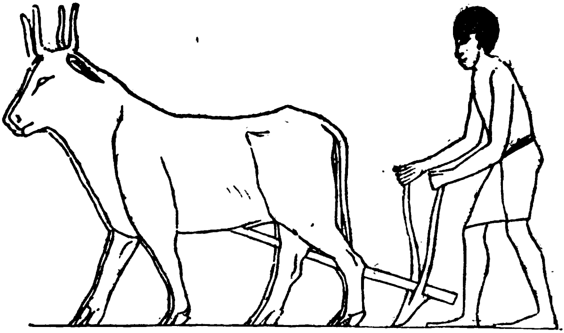
* See chapter on Pyramids.

This figure is of calcareous stone, and, as already observed, evidently not a work in the pure Egyptian style. It is a combination of the two styles, Greek and Egyptian, as evidently as it is a representation of the human form, and will tend to prove that some of these edifices belong to the period of the Greek occupation of Egypt. That the practice of embalming continued even under the Roman emperors is undeniable; and as the Greek kings of Egypt half adopted the usages of the Egyptians, we cannot doubt that they adopted also their modes of interment; and this, indeed, would almost be a matter of necessity in the case of the common people, as wood for funeral piles would be very dear. An hieroglyphic block, which was employed in the construction of one of these edifices, also leads to the conclusion that they were of a later date than other works in the neighbourhood from which the materials were taken. Some of these tombs contain a great number of painted bas-reliefs, representing agricultural occupations, musical performances, and dancing. On the plaster walls of one chamber there are many hieroglyphics, which apparently have been executed by a wooden stamp or mould. That these places were tombs is clear, from the quantity of bitumen, mummy-cloth, and human bones found in them. In some one chamber of all these buildings there was found a deep shaft leading to a subterraneous chamber. Captain Caviglia cleared one out to the depth of sixty feet, and found at a little distance, to the south of the well's bottom, a chamber containing a highly polished sarcophagus without hieroglyphics.

The two following cuts will give some idea of the kind of subjects represented in the tombs, and the mode of treating them. The first represents a man ploughing with a couple of oxen. This simple implement resembles the rude plough of the Hindus, in being apparently without an iron coulter.



Such a process as we see here represented could barely scratch the ground. In the other cut the plough appears to have a somewhat better construction, being apparently of iron in the lower part: the ploughman also has a whip, and the sower accompanies him, scattering the seed. We see here also a man cutting the corn with a sickle. It would be an erroneous conclusion to infer from these two specimens, and from such as these (as some writers have done), that the Egyptian agricultural implements were always as rude as these specimens; for we see much superior implements in some drawings: nor would it be a fair conclusion to infer, as a recent writer has done, that agriculture was once in a much more advanced state among the Hindus than among the Egyptians, and that the Egyptians learned the use of the plough from the Greeks; the latter hypothesis, so contrary to all sound criticism, is also maintained in a recent and valuable work on India*.

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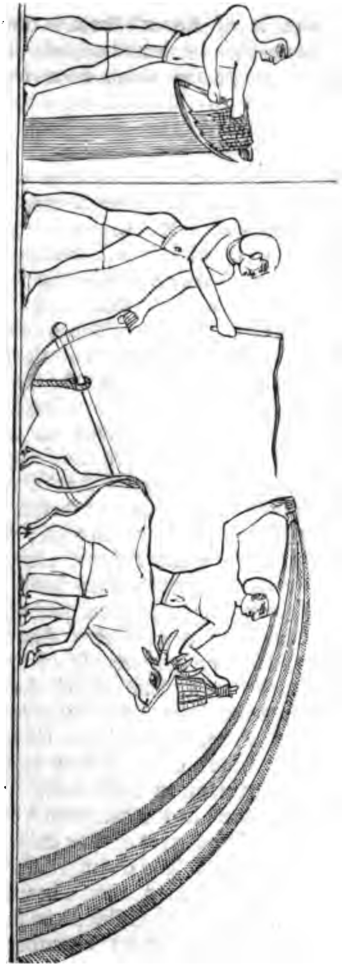
* Bohlen, Das Alte Indien, ii. 26.



In the catacombs of Abousir there is only one entrance to those commonly described, which is a shaft from twenty to thirty feet deep, on arriving at the bottom of which, the traveller finds numerous galleries filled with earthen vessels of a conical form, about fourteen inches high, containing principally embalmed birds. In the vaults of the Museum there is a large collection of such jars, which we suppose must have been brought from this spot. We have already described their general character and form. Among the birds most commonly found embalmed is the Ibis, known by his long legs, curved beak, and plumage. There is a skeleton of one of these birds in the Museum (in Room 5. of the Townley Gallery), and there are several specimens, with the feathers on, in various collections in England. When P. Lucas visited this place in 1714, he tells us that he remembered the story of Theseus in the Labyrinth, and took with him near four thousand feet of packthread, the whole of which was exhausted before he got to the end of the galleries cut in the rock; and he was of course obliged to return without completing his discoveries. These catacombs have been visited by many travellers since that time, but perhaps none of them have since seen what Lucas describes. In many of the niches he saw heads of oxen, which he considers to be an indication of the god Apis having been interred here. He also saw, in the possession of the French consul, in Egypt, an embalmed ox-head, which some Arabs had procured from a rock-cut chamber at Sakkârah. "I found," he says *, "such a head in the catacombs of Abousir. The ox was enclosed in a great case or chest, on which his head was represented. The chest, which was gilded and painted, was surrounded with a beautiful balustrade, about five feet high, also gilded and painted with various colours. In the same chamber I found

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* Tom. i. 345.

eight urns of white stone (probably alabaster), on the covering of which were represented heads of young females, and on the sides several kinds of hieroglyphics."

The catacombs of Abousir were well known to Abdallatif* in the twelfth century, who tells us many curious particulars about them, especially with reference to the sacred animals found there. He observed skeletons of human beings, dogs, oxen, rams, cats, and was informed that hawks, with feathers still entire †, calves, and even small fish, had been found in a state of preservation, either there or elsewhere. The skeletons were wrapped up in what he calls hempen cloth, and when the bodies had been covered with pitch they were in a state of good preservation; the flesh being firm, hard, and of a red colour,—a fact fully confirmed by recent examinations of mummies. The Arabian doctor supposes the cloths must have been well soaked with aloes and tar before the bodies were wrapped in them, and the cloth consequently gave its red colour to the bodies. These cloths in which mummies are wrapped, are generally yellowish or red, as far as we know, sometimes with a blue selvage; and it is remarked, that cloth of a similar fabric is made in Egypt at the present day. Abdallatif says, that when the aromatic substances penetrated to the bones, their colour also was changed. As it was then, so is it now; a number of poor people get their living by ransacking mummy-grounds. But how prodigious must the quantity have been, when, after the lapse of so many centuries, these caverns still supply the Arabs with articles of sale, and fuel to cook their victuals. Abdallatif could never find the embalmed head of a horse, camel, or ass, in the tombs; and he was told by the old people of Abousir, that they had never known an instance of one. It may also be remarked that, with the exception of the horse, these animals seldom, perhaps never, appear among the sacred characters or hieroglyphics.

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* De Sacy's Translation, p. 201.

† In this, as in many other particulars, the veracity of Abdallatif is proved by modern discoveries: embalmed birds, with feathers on them, have often been found. There is a specimen of one in the Museum.

The caves at Thebes, on the west side of the river, in the neighbourhood of Gourneh, have long been known, from the description of travellers, as an abundant depository of mummies, and the residence of a race of bold and cunning Arabs. The tombs* are cut in the rock, generally with their entrances facing the east; some have rock-hewn porticoes in front, but the greater part have only an outer doorway, adorned with hieroglyphics, and an inner one, on each side of which the figure of the watchful fox is placed. This excavated tract of rocks extends about two miles in length. As in the neighbourhood of Jizeh, we find here also deep shafts or wells, which are the approaches to deeper chambers, and to an endless number of winding recesses. The following extract from a communication made by M. Villoteau to M. de Sacy, will give the reader a pretty correct notion of the present state of these caverns:—

"About four in the evening we went to see several caves, which contained mummies. These caves, which are on the slope of the mountain, which is to the north of the Memnonium and the great colossi, are painted with the freshest and most pleasing colours. They are literally loaded with ornaments, and with allegorical and hieroglyphic figures, painted on a coating formed of a kind of plaster. The caves which we entered were very much encumbered with rubbish, and we could not get along without crawling to a considerable extent. In some parts, a moderately stout man could not crawl along without excessive pain, and a fat man would find it next to impossible to move his body in these narrow passages. After dragging ourselves for a long time over arms, legs, heads, and carcasses of mummies, more or less broken, we arrived at the part of the cave where they were lodged. Here we saw mummies heaped up in confusion to a considerable height, and we observed that some had been pulled one from under another, in fragments, and that others, by some accident or other, had been burnt. This made me reflect on the danger we should be in, were a spark to drop from the lighted candles which we carried in our hands, on materials so combustible as the heaps of resinous matter which surrounded us.

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* Belzoni, p. 120.

"I had an opportunity of judging how combustible the mummies are, from the rapidity with which fire was communicated to some that we had pulled out when making our entry into one of the caves. A sailor who accompanied us, having carelessly lighted his pipe near this place, a spark was carried by the wind to one of the mummies, and set fire to it in a moment. The fire lasted several days, till all the combustible matter was destroyed.

"After penetrating into three or four tombs, without being able to find a single mummy entire, much less one with its coffin, we gave up the search as useless, though, from the specimens which some Arabs had brought us in the morning, we had fully expected to succeed in our search. It is possible we might have been deceived by our guide, whose business was that of a mummy-dealer, and who consequently, like his brethren of the trade, must have well known what tombs were least ransacked. We commissioned the Arabs to procure us some mummies, but whatever might be the cause, we were unable to procure in this district a mummy in its coffin."

M. Jomard draws a lively picture of the danger into which two Frenchmen fell, who visited the tombs at Thebes about sunset. They had only two candles with them, which were put out by a flock of bats, after they had penetrated a considerable distance into the excavation. Before the candles were put out they had crossed a well, about thirty feet deep, such as occasionally occur in the tombs. By great good luck in groping their way back in the dark, they came to the same well, which they succeeded in crossing, and finally, after much labour and alarm, made their way to the entrance *.

Belzoni fared better than M. Villoteau, on his second visit, when he made some stay near the tombs, and at last succeeded in obtaining admission into any cave that he wished to see. He confirms M. Villoteau's account of the mummy-dealers only taking strangers to old tombs that are exhausted; for they are afraid of ruining their own business by allowing too ready access to the caves that are well stocked. The mode † of life of these Arabs is curious. They live together with their cows, camels, buffaloes, sheep, goats and dogs, in the entrances of the caves that have been opened; a small partition of earthen walls separates the two-legged from the four-legged animals. They have no place of worship; they build no houses, though they have abundance of bricks from the antient tombs; they hardly cultivate the strip of land that lies between the rocks and the river, preferring to grope for mummies, and cheat European travellers. Specimens of papyrus, which they find "about ‡ the breasts, under the arms, in the space above the knees, or on the legs, or under the numerous folds of cloth," are among the objects which find a ready sale, and bring a good price.

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* Description générale de Thèbes, tom. iii.

† Belzoni, p. 158. ‡ Belzoni.

Mrs. Lushington gives a curious account of a visit which she paid to a European resident at Thebes. This was Signor Piccinini, a Lucchese, who inhabited a mud hut on the hills of Gourneh. His house consisted of one apartment, which contained all his property, a bed, some arms, his wine, and a few drawings. His window-shutters, steps, and floor were composed of mummy-coffins, with their painted hieroglyphics. During the Signor's nine years' residence at Thebes, he had only discovered one mummy that was likely to repay him for his pains; but this, according to Mrs. Lushington's description, must have been a very rare and curious specimen. Travellers who visit the tombs of Gourneh must, during their stay there, fare pretty much like the Arabs. Their meat must be cooked with the wood of mummy-coffins, the usual fuel of the Gourneh Arabs. While Minutoli was residing at Thebes, six camel-loads of broken mummy-chests, of the finest execution, were brought to him for fuel*.

Belzoni's researches in the tombs of the kings near Thebes are deserving of particular attention, on account of the variety of interesting objects which they contain, and from the minute attention with which they were examined by the Italian traveller†.

"The sacred valley, named Beban el Malek (the tombs of the kings), begins at Gournou, runs towards the south-west, and gradually turns due south. It contains the celebrated tombs of the kings of Egypt, and divides itself into two principal branches, one of which runs two miles further to the westward, making five miles from the Nile to the extremity. The other, which contains most of the tombs, is separated from Gournou only by a high chain of rocks, which can be crossed from Thebes in less than an hour. The same rocks surround the sacred ground, which can be visited only by a single natural entrance that is formed like a gateway, or by the craggy paths across the mountains. The tombs are all cut out of the solid rock, which is of hard calcareous stone, as white as it is possible for stone to be. The tombs in general consist of a long square passage, which leads to a staircase, sometimes with a gallery at each side of it, and other chambers. Advancing further, we come to wider apartments, and other passages and stairs, and at last into a large hall, where the great sarcophagus lay which contained the remains of the kings. Some of these tombs are quite open, and others encumbered with rubbish at the entrance."

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* Minutoli, Reise, &c. p. 267. † Vol. i. p. 349, 8vo ed.

The Arabic words, Bibân el Molouk*, mean the tombs of the kings; but Belzoni is of opinion that the antient kings of Thebes were buried at Gourneh as well as at the former place. For at Gourneh there are tombs which are larger, and have been more magnificent, than any in the valley; but owing to the numerous visitors, and the injury done them by the Arabs, they are now very much defaced. Strabo † speaks of about forty tombs of the kings above what he calls the Memnoneion, cut in the rock: this number, Belzoni asserts, does not exist in Bibân el Molouk, where he cannot make out more than eighteen, including some of an inferior class; therefore the tombs of Gourneh must be included as containing among them some of the royal sepulchres. A tomb that Belzoni opened in Bibân el Molouk is curious as being a specimen of a sepulchre in an unfinished state. It consisted only of a passage about seventy-five feet long and ten and a half wide, the walls of which were plastered with a fine white, and had some figures on them painted in an excellent style, and in a high state of preservation. He observes that the end of the passage was evidently unfinished, and that there must have been an intention to carry the excavation further. Another tomb into which he found his way by excavation, had evidently been entered by visitors before: a brick wall, which closed the end of the first passage, had been broken through, and in the chamber, at the extremity of the tomb, two female mummies, quite naked, were lying on the floor.

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* It is difficult to be consistent in writing such names, as authorities vary. We have adopted in the text what we are told is a better form than that used by Belzoni.

† Book xvii. p. 816. Casaub.

The great tomb which Belzoni opened in this valley is one of the most interesting discoveries that have been made in Egypt. After proceeding a considerable distance, he came to a well thirty feet deep, and fourteen feet by twelve feet three inches wide, which he supposes to have been constructed for the purpose of receiving the rain-water and keeping the rest of the chambers dry. For it should be borne in mind that heavy rains fall at Thebes once or twice* a year; and an immense quantity of rubbish is carried down from the mountains into the valley of the kings' tombs, which has actually made the ground higher than the entrance to most of them. The long passage leading to the well already mentioned, slopes towards it from the entrance, and thus whatever rain found its way into the entrance of the tomb would be received by this well. At first there appeared to be no passage beyond the well, but on the side opposite to where Belzoni stood, on first approaching this shaft, he saw a hole in the wall, which some previous adventurer, Greek or Roman, must have made; for the Egyptians had plastered the whole up, giving it an appearance just as if the well was the termination of the tomb.

After passing through the little aperture, Belzoni came to a beautiful chamber, twenty-seven feet six inches, by twenty-five feet ten inches, in which were four pillars, each three feet square. This room, which Belzoni calls the entrance hall, was painted like the rest of the chambers, and the approaches to it, already described. It would be impossible to give any clear description of this tomb without a plan. Besides numerous corridors and staircases, it contained six large rooms, and either five or seven small ones—we cannot tell which, for Belzoni's words are not exact. In the last great chamber he found the carcass of a bull embalmed with asphaltum; and also a number of those small wooden mummy-shaped figures, six or eight inches long, which are covered with hieroglyphics and pitch. But the greatest curiosity was found in one of the other chambers, which has an arched roof, cut, we must suppose, like the rest of the chamber, out of the solid rock: this was a sarcophagus of white alabaster, nine feet five inches long, three feet seven inches wide, and two inches thick. It is translucent when a candle is put into it. Both the inside and outside are sculptured with figures not more than two inches high. The cover was found in digging for the entrance into the tomb on the outside, where it had been carried by some former rifler of the sepulchre; but, unfortunately, it was broken into several pieces. This beautiful and unique specimen of Egyptian art is now in the possession of Sir John Soane*, of Lincoln's Inn Fields, who purchased it from Mr. Salt†.

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* Belzoni. Other authorities say only about once in five or six years.

Under the sarcophagus there was a staircase communicating with a subterraneous passage leading downwards, three hundred feet in length; at the end of which was found a great quantity of bats' dung, which, together with the rubbish that had fallen in, choked up the passage*. From this it would seem probable that there is now an entrance into the sarcophagus-chamber in the direction of this subterraneous gallery, though it may be almost filled up with broken stone and filth. Belzoni, indeed, ascertained that the excavation extends, as far as he explored it, halfway through the mountain to the upper part of the valley; and he conjectures that it formed another entrance into the tomb, though this could not have been the case after the sarcophagus was placed there, as there was a wall built just under the sarcophagus, which completely cut off all communication between the chamber and the subterraneous passage. Also large blocks of stone were placed horizontally under the sarcophagus and on a level with the floor, apparently for the purpose of hiding this gallery. This tomb faces the north-east, and the direction of the whole runs due south-west.

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* Though generally called an alabaster sarcophagus, this is not correct. It is not alabaster (sulphate of lime), but arragonite (a carbonate of lime), which is a harder stone, and effervesces with an acid: alabaster does not.

† See Hall's Life of Salt for the history of the negotiations with the trustees of the British Museum about the sale of this sarcophagus.

The character and design of some of the paintings in this tomb, which Belzoni opened, possess the very deepest interest. We recommend those who have the opportunity, to look at the plates† intended to illustrate "The Researches and Operations in Egypt, &c." We shall endeavour to describe a few of them, referring to the original work for a more minute account. The entrances, as we have said, are adorned with various kinds of paintings of minor interest. In the hall or first chamber there are three tiers of figures on the right side, which, Belzoni remarks, is the general system in this tomb. On the left side is a representation of a procession. The principal personage appears to be the king on his throne, with the regal dress, and the serpent on his forehead, the emblem of kingly power. His face is turned towards the procession, which terminates with a row of seventeen figures, consisting of people of four different nations, in groups of four, painted red, white, black, and then white. The rear is brought up by a hawk-headed figure, the emblem of the sun. In Mr. Burton's drawing, the two first figures in the procession are imperfect: the two next, however, are quite distinct, and undoubtedly represent an Asiatic people of the white class; this is clear from the profile of the face, the beard, the hair, and the complexion. Each figure has a feather in his head by way of ornament, and a long lock coming down on one side. Their clothing reaches from the neck to the feet—a long white robe, the ground of which is diversified by a cruciform kind of pattern, such as we see sometimes on our own printed calicoes*. Belzoni calls them Persians: Heeren calls them Babylonians. For the present we feel inclined to leave them without a name. Next we see four Ethiopians, whose negro profile and thick hair cannot be for a moment mistaken: they have rings in their ears. Their white clothing extends from the waist downwards, and is attached to a belt which goes over the left shoulder. The next group consists of four Jews, with long beards, thick hair, and a kind of bandage tied round the head and fastened in a knot, one of the ends of which falls below the ear. It is absolutely impossible for any modern draughtsman to represent more faithfully the remarkable physiognomy of this nation. The last group of four are called by Belzoni Egyptians returning from captivity, in conformity with his notion of this being a procession of conquered people.

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* The excavation in the tomb seems to have pierced the whole mass of calcareous stone; for Belzoni mentions the termination of it in this passage, and the commencement of "a black rotten slate."

† We have heard the accuracy of these plates called in question by those who have seen the originals.

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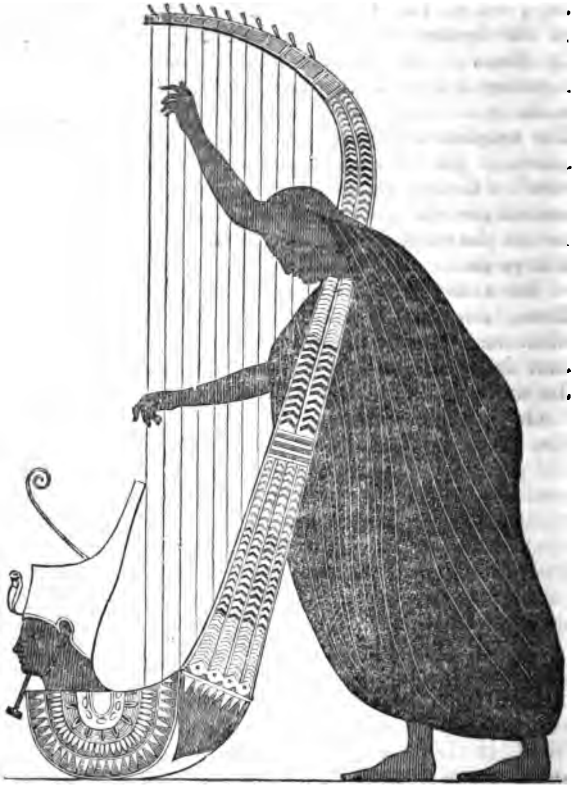
* See chap. v. (at the end) on the hypothesis of the art of printing calicoes being known to the Egyptians.

But their thick bushy hair, short beards, and profile seem to us to show that they belong to a different race, probably the Nubian; though we are informed on good authority, that these figures are similar to the figures of Egyptians throughout this tomb. It seems to us that Heeren's idea of this being a procession of ambassadors of different nations is a more probable hypothesis than Belzoni's. The usual scenes of triumph; the hero in his war-chariot; the prisoners bound, and raving in the agonies* of despair as on the walls of Carnak;—these and all the other marks of cruel triumph are wanting in this picture of the tombs. Here all is tranquillity and peace.

From the cartouches found in this tomb Dr. Young derived the name of Psammis or Psammuthis, the successor of Necos; and it was supposed that the events of his father's life, the conquest of Judæa, and other events of his own, tended to confirm the evidence offered by the painted procession. But Heeren remarks that Herodotus tells us that all the princes of this dynasty were buried at Sais in the sanctuary of Athene; and therefore if Herodotus was rightly informed, this tomb at Thebes could not belong to any of the Saite kings. The name which Dr. Young read Psammis, has been recently read otherwise, and, according to the new reading, does not interfere with the testimony of the Greek historian.

Our narrow limits will not allow us to dwell longer on the description of this tomb, which perhaps may still be fresh in the recollection of some of our readers who saw the model which Belzoni exhibited in London. With infinite pains he made drawings of the figures, and took impressions of them in wax, by means of which he was enabled to construct an exact representation, on a reduced scale,

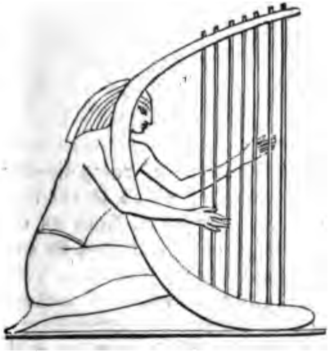
* Burton's Excerpt. Hierog. B.



of two chambers of this, perhaps the most curious monument of antiquity that has been preserved uninjured.

One of the tombs[*] in the Bibân el Molouk has been called the Harper's tomb, from the figures of the harpers in it, which were first described by Bruce. The direction of the excavation, after running a considerable distance, turns to the right, making a bend, after which it is continued in the original direction. It consists, as usual, of a series of galleries and chambers, the partitions between which are the solid rock, which has been left standing in the form of walls. The harpers, which are on the walls of a small chamber, are only part of a large picture or subject painted on the three walls of the chamber. One harper, who wears a black dress, is on the left wall; the other, who wears a white vest, is on the right, or opposite wall[†]. Both have their faces turned to the deities represented on the wall at the end of the chamber.

One of the harps (according to the French descrip-



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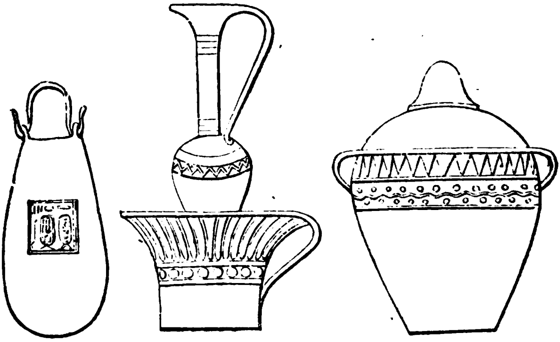
[*] See Description générale de Thèbes, tom. iii.; Antiquités, 8vo edition; and Wilkinson's Topography of Thebes, p. 109.

[†] See Egypte, pl. 87, vol. ii.

tion) has twenty-one strings. The attitude of the harpers is easy and free from constraint. The form of the instrument is elegant; it does not appear, from the drawing, that it has a pedal. The preceding cut represents a harper in a different attitude.

In the chamber opposite to that of the harpers, numerous articles of domestic use are represented on the walls. The vases, many of which are, no doubt, representations of metal vases, are remarkable for the beauty of their form and the brightness of the colours. Among them is recognized the modern quoulleh or bardaque, which is used in Egypt for cooling water, and appears, from its occurring here and in the grottoes of Eileithuias, to have been well known in antient times. It is a vessel made of porous clay, lightly baked, and rather thin. The water, which is constantly percolating through the small pores, forms a thick dew or moisture on the outer surface, by the rapid evaporation of which the temperature of the vessel and of the water which it contains is reduced considerably below that of the



atmosphere*. In the grottoes of Eileithuias, a man is represented fanning one of these vases for the purpose of cooling the water, just on the same principle as we sometimes cool a bottle of wine by putting it in a draught of air. Rosellini has also given a drawing of this subject (M. C. xxxix.), where the man is using a fan with a handle. The fan is a palm-leaf, and with its handle hardly differs at all from the fans which come from the Bermudas, and are used by the women in some parts of the United States. These jars having narrow or sharp-pointed bottoms, like many Roman amphoræ, were placed, as is represented in the picture, on a kind of frame-work. In a part of the same picture other jars are similarly placed, so that the bottom of them is seen just below the upper margin of the frame-work containing the holes or compartments in which their bases are inserted. Roman amphoræ must have been disposed of in some similar way, or stuck into holes in the ground. Rosellini remarks that an immense quantity of such vessels are now manufactured at Keneh, near Thebes, and that the Arabs of Egypt are well acquainted with the practice of fanning these vessels for the purpose of quickening the evaporation. The manufacture of earthen vessels is also represented. We see the clay, of a dull gray colour, which the workmen are fashioning into vessels of various forms: each workman has in front of him a low stand, on which there is a flat (circular?) board placed horizontally. Some hold this with one hand, while the thumb of the other hand is stuck into the middle of the vessel that is forming. From this we infer that the circular plate or board moved round on an axis. In another place we see them baking earthen vessels in tall thin furnaces, out of which the pots come of a red colour, and are carried off by a man in something like a large pair of scales, the lever of which passes, as usual, over his shoulders, like the pole of a milkman's pails. Over one of the pictures which represents men making these clay vessels, the only symbols marked are pots of three different kinds; a language which, coupled with what is going on below them, is expressive enough*. It is rather curious that the earthen vessels made in some parts of Spain, about Cadiz for instance, for cooling water bear a close resemblance in form to the bardaque of modern Egypt, and the cooling vessel painted

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* M. Costaz records an experiment which he made at Edfou on the refrigerating power of these earthen vessels, Sept. 18, 1799. The thermometer, placed in the shade, but exposed to the air, marked 110°·75 Fahrenheit, during the greatest part of the day. At sunset the water of the Nile was 82°·6. A bardaque was filled with this water, and placed on the deck of the boat in which M. Costaz passed the night on the Nile. At daybreak the temperature of the river was the same, but that of the water in the jar was only 61°·25, and more than half the water was evaporated. M. Costaz properly remarks that the experiment was made under circumstances favourable to the greatest quantity of evaporation, there being a continual current of air on the river.

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* Rosellini, M. C. L.

in the grottoes; their use is precisely the same. The accompanying cut represents two men carrying a large amphora.

The chamber contains also representations of chairs and seats of the most beautiful and tasteful forms. From the various colours employed, as we may observe, in the specimens of fresco paintings in the Museum, it appears that the chairs and sofas were formed of various and sometimes, perhaps, costly materials*.

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* For further description of the tombs consult the text of the French work on Egypt; Belzoni's work; and Mr. Wilkinson's Topography of Thebes.

CHAPTER V.

EGYPTIAN MUMMY-CLOTH.

We have endeavoured to show that the byssus of Herodotus can only be linen. Whether byssus had not also other significations, we have not attempted to show; but we are inclined to think that it had. Rosellini has endeavoured at some length to prove that the *byssus* of the antients was not a species of fine linen, as he says most writers have supposed, but in reality a gossypium or cotton. His argument is reducible to the following statement*.

In the book of Exodus (ix. 31), where the seventh plague is described, the hail destroys the *pishta* (פשׁתהּ), a word which occurs there twice, and which the Septuagint renders by *linon* (λίνον), and our version by *flax*. Again, where directions are given for making the sacerdotal vests of Aaron and the Levites (Exod. xxviii. 39, 42), it is said, they must be made of *shesh* (שׁשׁ), which word the Septuagint renders by the word βύσσος, *byssus*, and our English version by *fine linen*. Further, the Levites are commanded to make themselves aprons, or thigh-coverings (breeches), of *bad* (בד), which the Septuagint renders by περισκελῆ λινᾶ or "linen breeches." Fourthly, in the first book of Chronicles (xv. 27), we read that David was clothed in a garment of *butz* (בוץ), which the Septuagint renders by στολὴ βυσσίνη, a garment of byssus, or, as our version has it, a robe of fine linen. "David also had on an ephod of *bad* (בד)," which is translated in our version "an ephod of linen." There are accordingly four words used in the Bible to express what the Greek called *linon* or *flax*, and what they called *byssus*—pishta, bad, shesh, butz. In twelve passages of the Hebrew text the word *pishta* is rendered in the Septuagint by λίνον, flax. The word *bad*, or plural *baddim**, is used at least thirteen times besides the passage quoted, and in all of them (except, says the author, certain exceptions, which are not very clearly indicated,) it is translated either by λίνον, flax, or is simply copied into the Greek without translation. From what has been stated, and from the fact of *bad* being used in Exodus, where *pishta* is used by Ezekiel (xliv. 18), in the same sense, it appears that the two words signified the same, or perhaps differed only in this, that *pishta* was the plant, and *bad* the linen thread.

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* Rosellini, Part ii. vol. i. p. 134.

Now we come to *shesh* and *butz*. *Shesh* first occurs in Genesis (xli. 42), where we read that Pharaoh clothed Joseph in garments of *shesh*, or of *byssus* according to the Septuagint, and fine linen according to our version. Whenever this word *shesh* occurs, the Septuagint translate it by byssus. The word *butz*, from which the Greek and Latin *byssus* came, is also always translated byssus by the Septuagint. From all this it is concluded that *pishta* and *bad* always mean the same thing, namely flax; and *shesh* and *butz* always mean what the Greeks called byssus. It only remains to see what byssus is, which Rosellini assumes to be cotton, and thus proves his point.

The first author quoted by him is Prosper Alpinus,—who in fact is no authority at all,—who says that "in Arabia they make from this wool of the xylinum those very fine cloths which they call *sessa*, and which many believe to be the byssus of the antients." But the origin of this story, as Rosellini himself remarks, seems to be in the following passage of Pliny (xix. 2), where he says that in Upper Egypt, bordering on Arabia, "there is a plant or shrub (frutex), which some call *gossypium*, but more call xylon, and that the lina or flax made from it is called xylina: it is a small shrub, and its produce (fructus) is like a bearded nut, and from the inner part of it (bombyce) a wool is spun: no vests are superior to these in whiteness and softness." Pliny is here apparently describing a species of cotton, but this is no proof that the byssus of the Greek and Roman writers is cotton, as Rosellini himself admits.

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* Rosellini, following previous commentators, traces to this word the Βαδδιν (Baddin) of Suidas, who explains it to be a sacred vest; and the Βαδδιν of Hesychius, who describes it as "a dress of byssus used in the sacred rites," falling, as Rosellini remarks, into the error of supposing byssus to be linen. (See Gaisford's Suidas; and Hesychius.)

But he founds his main argument on Herodotus, in the following manner:—Herodotus, among other proofs that he advances of the Colchi being an Egyptian colony, says, that the Colchi cultivated flax (λίνον) like the Egyptians; and he uses the same word for flax or linen when he speaks of the Pæonian women (v. 29). But when he speaks of the wrappings of the dead bodies, he uses the expression *byssine sindon*. "Now," the author adds, "of all the mummies that I have had the opportunity of seeing and unwrapping in various European cities, or in the metropolis of Thebes, (and certainly I have seen at least two hundred, and have opened and unwrapped the bandages of the great part of this number,) I have not seen a single mummy that was wrapped in anything but cotton cloth. The fact can very easily be verified in any museum that contains a mummy." No doubt the fact can be verified very easily, and has been verified, and it has been shown repeatedly that the material in which the mummies are wrapped is invariably linen. It is clear* that the author has used no test at all to ascertain the substance of mummy-cloth; but, boldly assuming it to be cotton, he proves from this that the byssine sindon of Herodotus must be cotton. If he will only stick to the test that he has chosen, he must admit that the byssine sindon of Herodotus (for that is all we affirm) is linen.

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* From the author's work. He has since announced that "our most learned (Italian) opticians, naturalists, and chemists have multiplied experiments upon the cloths of mummies, all of which have decidedly confirmed the fact that they are only cotton."

He further remarks that Herodotus distinguishes particularly between byssus, as used for the wrappings of mummies, and the linen garments worn by the priests, which he calls linen vests (ἐσθῆς λινέη), and not byssus. Had byssus, he says, been a more precious or finer kind of linen, why did not Herodotus use the word when speaking of *the priests'* vestments? The answer is, that there is no reason for supposing that byssus, in its general sense, as used by Herodotus, was a finer kind of linen; it is linen in the text of Herodotus, and that is all we know. Rosellini goes on to say, how could he have said that the mummies were wrapped in byssus, if these wrappings are, on the contrary, for the most part of coarse texture, and scarcely ever very fine, and always of cotton? The answer to this is, that they are always linen, and the notion of byssus being necessarily fine linen (in the sense in which Herodotus uses it) has no foundation. The author, in his zeal in favour of cotton, has entirely overlooked the passage of Herodotus (ii. 81), when he says that all the Egyptians wear one vest of linen, with a woollen vest over it, and that the woollen vest is not buried with them, implying, as we find sometimes to be the fact, and as we have already observed, that the linen vest *is* buried with them. As to the fact of the cultivation of cotton not being represented in any yet known paintings or sculptures, the author remarks that there are many monuments not yet examined, and that such representations may have been destroyed. We admit this, and shall not be surprised if such representations are hereafter discovered; but this will not prove that mummy-cloth is cotton cloth, or that the byssus of Herodotus means cotton. The author adds a curious fact, which is conclusive as to cotton being cultivated in Egypt at some epoch. He found in a tomb which he opened at Thebes, various kinds of seeds contained in vessels, and among them vessels full of cotton-seeds. The seeds are in the Egyptian Museum of Florence; and Dr. P. Hannerd, who is engaged on the botany of antient Egypt, has pronounced them to be the seeds of the species *gossypium religiosum*. This is better evidence than the author's assertion as to the material of mummy-cloth. It may surprise a person, who knows so little of what modern investigation has done as Rosellini, to be told that a good microscope enables us to distinguish even between the fibre of *gossypium religiosum* and other varieties of cotton. Should a specimen of Egyptian cotton cloth ever be discovered, which is quite a possible event, there will be no difficulty in detecting what it is.

We omit to notice some other remarks of the author, because they are not to the purpose. The fact is that the byssus of Herodotus was linen, even according to the argument of Rosellini; for the byssus of Herodotus is the cloth of the mummies, and the cloth of the mummies is linen, and nothing else. The name byssus came possibly from the Phœnicians (from whom the Greeks got also the word and the substance *cinnamon*); and it is possible that later writers may have applied the word byssus indifferently, either to cotton or linen cloth. There is no doubt, as we have shown, that the substance cotton was known in Egypt long before the time of Herodotus; that in India it was cultivated at least as early; and it seems not unlikely that the cultivation of it was introduced into Egypt, probably before the epoch of Alexander, and that it was cultivated in Egypt in the age of Pliny. But Pliny's testimony is here weakened by his saying that the priests were very fond of cotton vests (gossypion or xylon), by which he clearly means to say, they wore cotton vests; but our author easily settles this point. "This remark of Pliny," he says, "as it does not exclude the use of linen, might lead us to suspect that, as the priests' dress varied, according to their different ranks, so they wore, according to their distinctions of rank, vests of linen or cotton. By this probable hypothesis, every apparent discrepancy among the writers will be reconciled." Herodotus, who says they wore nothing but linen, and Plutarch, who says the same, are thus reconciled with Pliny, who says they took great delight in cotton vests. We have gone particularly into this matter because it is an interesting point of archæological inquiry, and because it is possible that the excellence of the pictures in Rosellini's work may create a disposition in favour of his letterpress, which is often characterized by unsound learning, and by hasty deductions inconsistent with his premises.

Pausanias (vi. 26) speaks of the district of Elis as very well adapted for growing the byssus, and remarks that all the people whose land is adapted for it, sow hemp, flax, and byssus. In another passage (vii. 21), he says that the women of Patræ (and they were more than double the men in number) gained their living by making caps or head-dresses, and weaving cloth, from the byssus of Egypt. In a third passage (v. 5), he says that the byssus of Elis is not inferior to that of the Hebrews in fineness, but it is not so yellow (ξανθή),—a remark that does not assist us in determining this question.

The only decisive test, as to the material of mummy-cloth, is the microscope. Mr. Bauer* has determined, by the aid of the improved achromatic microscope of Ploessl of Vienna, that all the specimens of mummy-cloth that he has examined are made of flax, and not of cotton. The specimens of cloth collected for Mr. Bauer's inspection by Mr. Thomson, came from so many quarters, that the general conclusion may safely be established that all the mummy-cloth of Egypt is linen. His specimens were procured from individuals connected with the British Museum, the Royal College of Surgeons, London, the Hunterian Museum of Glasgow, and other institutions both at home and abroad; and the samples were a great variety of cloths of human mummies, besides those of birds and animals. All these specimens, without exception, proved to be linen; and Mr. Bauer has never detected a single fibre of cotton in any of them. The filaments of cotton, when viewed through a powerful microscope, appear to be "transparent glassy tubes, flattened, and twisted round their own axis. A section of the filament resembles in some degree a figure of 8; the tube originally cylindrical, having collapsed most in the middle, forming semi-tubes on each side, which give to the fibre, when viewed in certain lights, the appearance of a flat riband, with a hem or border at each edge. The uniform transparency of the filament is impaired by small irregular figures, in all probability wrinkles or creases, arising from the desiccation of the tube. The twisted and corkscrew form of the filament of cotton distinguishes it from all other vegetable fibres, and is characteristic of the fully ripe and mature pod, Mr. Bauer having ascertained that the fibres of the unripe seed are simple untwisted cylindrical tubes, which never twist afterwards if separated from the plant; but when the seeds ripen, even before the capsule bursts, the cylindrical tubes collapse in the middle, and assume the form already described. This form and character the fibres retain ever after, and in that respect undergo no change through the operation of spinning, weaving, bleaching, printing, and dyeing, nor in all the subsequent domestic operations of washing, &c., till the stuff is worn to rags. The elementary fibres of flax are also transparent tubes, cylindrical, and articulated or jointed like a cane. This latter structure is only observable by the aid of an excellent instrument[*]."

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* See a Communication on the Mummy-cloth of Egypt, &c. by James Thomson, Esq., F.R.S., in the London and Edinburgh Philosophical Magazine, November, 1834.

Mr. Thomson has some further remarks on mummy-cloth, that are interesting. A piece of mummy-cloth given to him by Belzoni had been originally white: the yarn, both of the warp and woof, was very even and well spun; the thread of the warp consisted of two fine threads twisted together; the woof was a single thread; the warp contained ninety threads in an inch, but the woof only forty-four. In other specimens he observed that the proportion in one inch between the number of threads in the warp and the woof was, in respective instances, as four, three, and two to one. In modern cloth, the number of threads in the warp and woof is nearly the same.

The colours of the mummy-cloths vary: we find pure yellow, brownish yellow, and dark flesh-red colour. Professor John (Appendix to Minutoli's Travels) supposes the pure yellow to be dyed with henné leaves: he says this plant is a native of India; and Minutoli observes that it is now cultivated in the gardens of Cairo, but no proof is given of its being antiently cultivated in Egypt. The brownish-yellow colour he supposes to be the watery extract of madder[†], with the addition of henné leaves and tamarinds[‡]. The dark flesh-red colour Professor John considers to be from madder; and he adds, that they could not produce a pure rose red or dark Turkish red, because they did not know how to separate the madder from its yellow extractive parts, and were not acquainted with the modern, more powerful, solvents and mordants of the valuable red dyes.

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[*] Mr. Thomson's Communication, &c.

[†] Färberröthe.

[‡] Tamarinden.

Mr. Thomson is of opinion that a piece of mummy-cloth, of a pale brick or red colour, which he examined, was dyed with safflower, *Carthamus Tinctorius* of botanists: the colour, according to his experiments, resisted acids, but instantly yielded to very weak alkalies, which, as he observes, is characteristic of safflower. The selvage of Egyptian cloths is generally strong, and some of them are bordered with blue stripes. From the chemical tests which he applied to these blue stripes, Mr. Thomson concludes that the colouring matter of them was indigo*. He describes a small pattern, about half an inch broad, as forming the edging of one of the finest of these cloths with selvages; this pattern was composed of a stripe of blue, followed by three narrow lines of the same colour, alternating with three lines of a fawn colour: these stripes, as he remarks, were doubtless produced in the loom by threads previously dyed.

A representation of an Egyptian loom is given in Minutoli's travels from the tomb of Beni Hassan, and the same picture is copied in the work of Rosellini. This loom is exceedingly rude.

This question as to whether the Egyptian cloth is a cotton thread or a linen fibre, has been so much a matter of dispute, that we add the following remarks made by Mr. Bowerbank and Mr. John Williams, on the cloth of the mummy opened in the London University, in the spring of 1834, before Mr. Thomson's remarks, which were published in November, 1834. The cloths were examined with a most excellent and powerful microscope, made by Mr. Tulley, with his latest improvements. For the purpose of ascertaining the size of the fibres, a micrometer, divided to show the $\frac{1}{1000}$ part of an inch, was used. As a preliminary step, a small portion of cotton-wool was first placed in the microscope. In this a multitude of fibres were seen, each having the appearance of a flat riband or tape, about the $\frac{1}{1000}$ part of an inch in width. This was more particularly visible where the fibre chanced to be twisted, and also at the broken ends. For the purpose of ascertaining if the different processes through which the cotton passes in its manufacture cause any variation, a piece of calico was taken, and in this, as well as in every instance of a manufactured article being examined, the torn edge was preferred. Here also the same appearances presented themselves, proving, in the most satisfactory manner, that no alteration in the fibre had taken place. A small piece of Irish linen was next examined, in which the fibre, instead of the riband-like appearance of the cotton, exhibited a decidedly tubular structure, with joints at unequal distances, thus appearing in many instances like a cane or bamboo. These fibres were about half the size of those of cotton, with exceedingly small lateral fibres branching off from their sides, and showing a similar structure. This tubular appearance is easily accounted for, as flax is prepared from ligneous fibres of vegetables, which are composed of hollow vessels running from the root into all parts of the plant. A small piece of Otaheite cloth being examined, showed fibres so much like those of flax, that the two could not be distinguished from each other under the microscope, although they came from plants decidedly different. Hemp also presented the same tubular structure.

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* Pliny mentions the indigo as a dye, and correctly describes it as emitting a beautiful purple colour when exposed to heat. It is mentioned in the Periplus as an article of export from Barbarike on the Indus to Egypt.

The distinction between the linen and the cotton being thus clearly established, specimens of three different qualities of the mummy-cloth were examined, in all of which the fibre was found to be precisely similar to that of the flax, presenting not only the same tubular structure, but also similar divisions at irregular distances. The fact is thus established,—that the cloth was made, like the modern specimens of linen, of ligneous fibres, and was not the product of a plant like cotton. It might, however, be objected, that though the manufacturing processes had made no change in the fibre of flax, some change might arise in the fibre, owing to the peculiar circumstances to which it had so long been subjected. To show how far the objection might be valid, a piece of antient Peruvian gauze was examined, which formed the envelope of a dried body found in a sepulchre at Guacho in Peru, by the late General Paroissien. This gauze exhibited the flat fibre of the cotton, and thus showed that circumstances, in some respects similar to those in which Egyptian mummy-cloth had been placed, had not produced a structure like that of the fibre of mummy-cloth, but that each species of cloth maintained in its respective fibres the characteristics of linen fibre and cotton thread. It appears, then, that Egyptian mummy-cloth is not cotton, but that it is made of the ligneous fibres of a plant. Since, however, there is no difference between the ligneous fibres of plants, which are themselves different, we cannot with certainty say what the plant was from which Egyptian cloth was made; yet there seems little doubt, from all the evidence already adduced, that it must have been flax. Mr. Williams adds, that a subsequent examination of a great number of specimens of cloth from the mummies of a cat, a serpent, and of two human subjects, has in no instance shown any flat or cotton fibre. Mr. Williams also remarks, that he could, in no instance, perceive any appearance of tubular structure in cotton, even when the specimen was taken from the pod itself: in this, as in all cases where the cotton was examined after the process of manufacture, the filament was perfectly flat under Tulley's microscope *.

Dr. Ure, who has lately examined cotton and linen, together with other textile fibres, by the aid of a powerful achromatic microscope, always found that mummy-cloth, both in the warp and woof, presented the form of linen, and never that of cotton fibre. But though he agrees in the conclusion, he differs from Mr. Bauer as to the respective appearance of cotton and linen fibre under the microscope. He describes cotton fibre † "as almost never true cylinders, but as being more or less flattened or tortuous; so that when viewed under the microscope they appear in one part like a riband from the one-thousandth to the twelve-hundredth part of an inch broad, and in another like a sharp edge or narrow line. They have a pearly translucency in the middle space, with a dark narrow border at each side like a hem." He says that flax fibres seen under his microscope, with a magnifying power of 300, are very distinct, and yet they never exhibit the regular cane-like jointed form: "they show occasionally indeed cross-lines, at variable angles to the axis, but at irregular intervals, though frequently they show no cross-lines at all, even when the filaments are impasted in balsam." Dr. Ure conjectures that the difference between his description of cotton fibre and that by Mr. Bauer, arises from the cotton having been seen by Mr. Bauer "impasted in Canada balsam or some similar varnish, whereby its fibres have derived certain peculiarities of appearance, which are not visible when they are viewed in less

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* Communication from Mr. Bowerbank and Williams.

† Philosophy of Manufactures, p. 84, &c.

powerful refracting media." The author adds, "I have verified the results derived from my own instrument, with regard to cotton, by a comparison with those obtained from an excellent achromatic microscope by Tulley, belonging to Mr. Bowerbank." It appears, however, that Mr. Bowerbank's microscope exhibits the same cane-like structure in linen fibre, which Mr. Bauer has described; and so far we have two authorities against the single authority of Dr. Ure. Mr. Williams's remarks on cotton fibre agree with Dr. Ure's observations.

In the grottoes of Eileithuias, the gathering of the flax-crop is represented in one of the bas-reliefs*. The flax, Costaz observes, is recognized by its height, (which does not rise above the hips of the workmen), by the green colour of the stalk, and by the form and colour of the grain, which is round and yellow. Four men and a woman are employed in plucking it up: another man binds it in sheaves, using his left foot to press the sheaf tight, and a third carries it to one whose business it is to get out the grain. This man is standing under the shade of a tree, and has a kind of comb, with spaces between the teeth wide enough to let the stalk pass, but not the head of the plant. The stock of the comb rests on the ground, the teeth are raised by a support placed beneath, and the workman keeps the whole steady with his feet. He takes a handful of flax, and turning the heads downwards, he fixes the stalk between the teeth of the comb and pulls it towards him. As the grain cannot pass through the teeth, it is separated from the stalk, which is not at all injured by the process. Costaz remarks that the same process is in use in several parts of France.

In Rosellini's plates (M. C. xxxv. No. 2.) there is also a representation, from a tomb at Kum-el-Ahmar, of getting in the flax. The men are pulling it up with the hand, after which it is tied in bundles and carried off the field on the backs of asses. The ass often appears in Egyptian paintings, of which the following are specimens.

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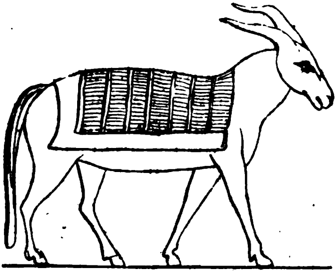
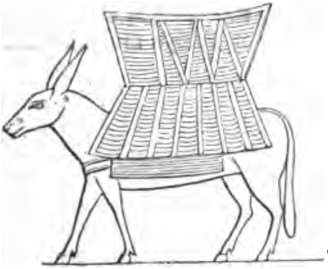
* See the Memoire by Costaz, vol. v. 8vo ed.; and vol. i. plate 68, of the volume of plates.





There is a curious passage in Pliny (xxxv. 11.), pointed out by Dr. Thomson (*Records of General Science*, No. 1.), which he considers to prove that the Egyptians knew the art of calico-printing. "They colour (paint, literally) garments in Egypt in a surprising manner, after they have smeared the cloth in its white state, not with colours, but with preparations that imbibe colours (*mordants*, in modern language).

When this is done no colour appears on the cloth; but being plunged into a vessel of boiling colouring-matter, it is taken out a moment after dyed. And it is surprising that, though there is only one colour in the vessel, different colours are fixed in the cloth, the one colour in the vessel being changed by the quality of the mordant which receives it: nor can the colours be washed out. Thus the vessel of colouring-matter, which would certainly confuse all the colours into one if the cloths were put into it already coloured, elaborates all these colours out of one, and colours the cloth while it is undergoing the operation of boiling. The colours of these vests when exposed to the sun become more strongly fixed than if they were not worn." It is difficult to conceive that this operation is anything else than some process like that of calico-printing. Parts of the description are rather obscure in the original, partly owing to the state of the Latin text, and partly perhaps to that want of distinctness which pervades most parts of Pliny's multifarious but valuable collection.

CHAPTER VI.

PYRAMIDS—GREAT SPHINX.

OF all the antient monuments of Egypt, those most familiarized to us by early reading are the pyramids. We have already described them as lying in an irregular line, and at considerable intervals on the west bank of the river, from the neighbourhood of Jizeh, nearly opposite to Grand Cairo, as far south as the parallel of 29°. This line is about seventy geographical miles in length. The number of pyramids, large and small, now existing within these limits, in various states of preservation, is not accurately ascertained; but whatever it may be, we know that there was once a greater number than there is now. Many of the smaller pyramids have been used as materials for modern constructions, and even the larger masses have not been entirely safe from the hands of destroyers. Some have partly crumbled away, owing to the nature of their materials, as that of Illaoun or El-Lâhoun, near the entrance of the Faioum territority, which is built of sun-dried bricks. Its base is now about one hundred and ninety-seven feet long, its height about sixty-five, and the summit, which has tumbled down, forms a platform about fifty-nine feet square. It stands on a plateau, about twenty-three feet high, which seems formed of its own debris *.

We are always curious to know what kind of effect is produced by the contemplation of any uncommon object; and as it must unavoidably happen, in such cases, that we have no proper standard by which to

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* Description de l'Egypte, vol. iv.

measure the new thing, we are almost certain to form exaggerated estimates of the impressions which it will create. The first view of the pyramids does not strike the traveller with the idea of grandeur, any more than a hill of moderate dimensions would do when seen at a small distance. Comparison is essential to forming a proper conception of any work of human art, and the pyramids have the least possible share of this advantage when contemplated at a distance.

We will take the evidence of a female traveller on this point, who first saw the pyramids as she was descending the Nile towards Cairo *. "I was struck by seeing what appeared to me a mountain of a singular shape, inclining to one side, as if the foundation had partially given way. A little below, the view of the pyramids of Jizeh first broke upon me; and as the mountain above mentioned made these look small, they did not fill me with that degree of astonishment which I had expected them to excite. Great, therefore, was my surprise to find that what I had imagined to be a mountain, was called the false pyramid, which, from being nearer, and built upon a mound, seemed, though the reverse, of a larger size than the others. Had I at first known the truth, the effect would perhaps have been far more imposing; but as it was, I looked and looked, and endeavoured to raise myself to something like enthusiasm, but I could not succeed."

The mountain-like pyramid that Mrs. Lushington describes, is one at Meydoun, which stands on a secondary plateau of the Libyan chain, and consists of several receding stages. It is built of calcareous stone, according to Jomard. Denon †, who only saw the pyramid at the distance of about half a league,

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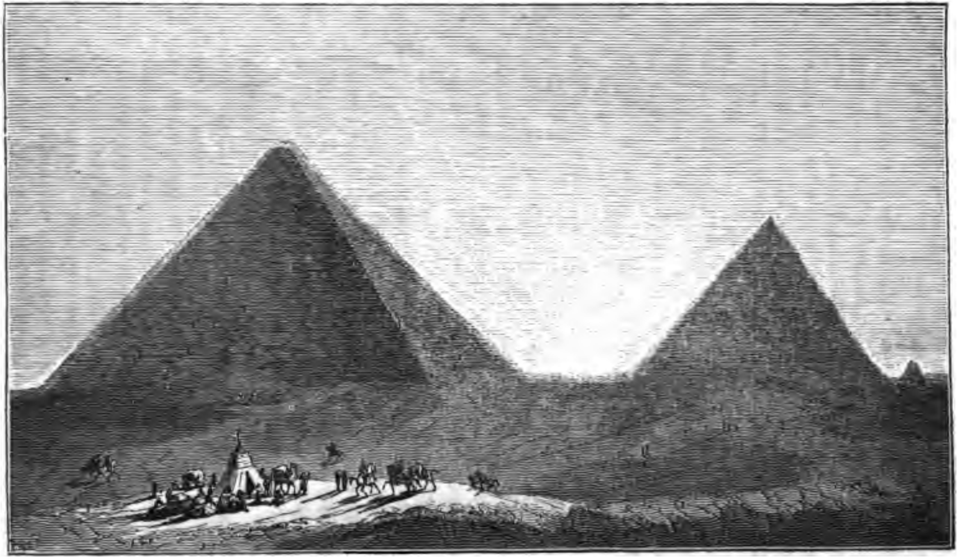
* Narrative of a Journey from Calcutta to Europe by way of Egypt. By Mrs. C. Lushington.

† See Denon, pl. 26.



From the French Work, vol. v. pl. 9.

computes the height of the masonry to be, at present, about two hundred feet: but Norden says it is made of sun-dried brick. This pyramid consists of two parts, each of which has the form of a truncated pyramid; it stands upon a large mass, probably of rock: the upper part is much less than that on which it rests.

The traveller, in general, first obtains a fair view of the pyramids from the city of Grand Cairo, on the east bank of the Nile, near the apex of the Delta. Crossing the Nile, he traverses the level surface that lies between the river and the Libyan chain, a distance variously estimated by different travellers, but not quite five miles, in a straight line, according to the map of this district in the French work on Egypt*. Part of this route is through palm plantations, and part over an uncultivated plain. On approaching the limit of the level land, he finds a canal running north and south, and communicating in the former direction with the Nile; in the latter with the Bahr Yussuf. On the south the canal also communicates with the Nile near the ruins of Memphis. This canal, then, is in all probability a work of high antiquity, and may serve to explain a passage in Herodotus†, where that traveller says,—when the waters of the river are up, the boatmen who are ascending the stream from the Canopic (Rosetta) side of the Delta, leave the main channel of the river, and make a short cut to Memphis, by passing along near the pyramids.—It must have been by such a canal as this that the boatmen shortened their course in going to Memphis, which lay nearly due south of the pyramids of Jizeh. The distance of the nearest point of this canal (which flows parallel to the rocks on which the pyramids stand), from the north-east angle of the great pyramid, is about one thousand seven hundred yards.

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* Vol. v. Antiquités.

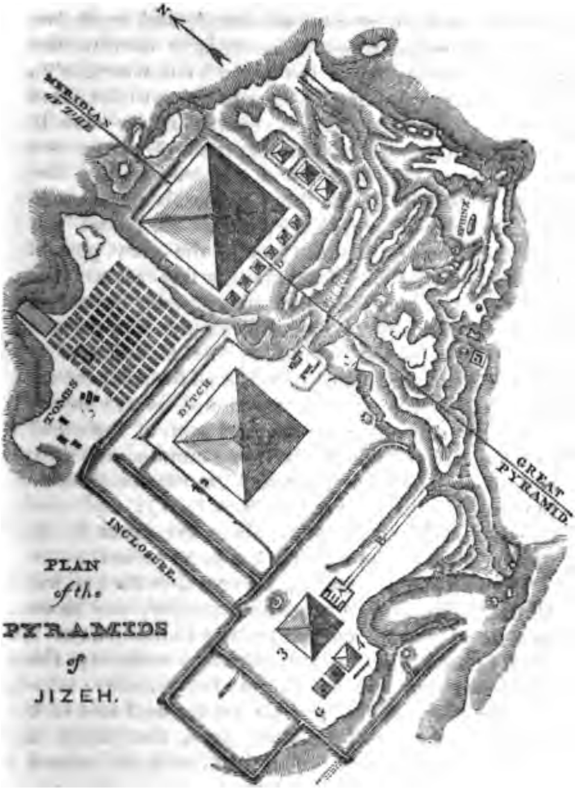
† ii. 97.

It has been observed, that the pyramids do not equal expectation, as they are seen by a traveller who approaches them. The clearness of the atmosphere, which defines their angles so sharply, and the want of some suitable measure of magnitude, sufficiently account for this phænomenon. But still there are other impressions that serve to give some idea of the enormous mass of these objects. At the distance of four or five miles, they seem close at hand, and the traveller, as he advances, has time to reflect on the magnitude of the object which has given him so erroneous an idea of distance. This impression, however, is not caused solely by the magnitude of the pyramids; it depends on their form also. Being large undivided masses of four triangular sides, there are no small parts for the eye to select as in ordinary temples or cathedrals, where the indistinctness of particular parts serves to correct the false impression, as to distance, which it is the tendency of the whole mass to produce.

The pyramids of Jizeh, the only pyramids of which Herodotus particularly speaks, and which alone most travellers visit, stand on a plateau, formed of the calcareous rock of the Libyan chain. There are three large pyramids here, and a number of smaller ones.

In the accompanying plan, which is taken from the French work, we may see the rectangular enclosures which in part surround the pyramids, the smaller pyramids, the tombs sometimes single, sometimes in groups, the catacombs cut in the rock, the ruined buildings, and the great sphinx.

The plateau on which these pyramids stand is a kind of projection in the Libyan chain, lying between two promontories on the north and south. It is about 6,890 feet long from east to west, between the limit of the cultivated lands, and the extreme western boundary of the Libyan chain; and about



From the French Work, vol. v. pl. 6.

A. Remains of an antient building; B. Great causeway; D Pyramids dilapidated; G. Pyramids with steps.

4,920 from north to south. The calcareous rock contains numerous fossil shells, particularly nummulites, and some belemnites; fossil oysters occur also on the highest points. This plateau, which is a dry, barren, irregular surface, covered with sand, and small fragments of rocks, presents a striking contrast with the rich vegetation of the plain to the east. The three great pyramids lie in a line from about N.E. to S.W., the largest being to the north, and the smallest to the south; the diagonals of the three lie in the same direction, but not exactly in the same line. The faces of the three pyramids stand exactly opposite to the four cardinal points. M. Nouet found that the line of the north face of the great pyramid deviated only 19′ 58″ from the true line east and west; and even this small deviation may possibly have arisen from the difficulty of determining the true direction of the steps of the pyramid. The elevation of the base of the foundation stone let into the solid rock, at the north-east angle of the pyramid, is one hundred and forty feet above the superior cubit of the mekias or nilometer at Rouda; nearly one hundred and thirty-eight feet above the valley, and the mean elevation of the floods (from the year 1798 to 1801); and nearly one hundred and sixty-four above the mean level of the low state of the river for the same period*.

Remains of causeways, along which the materials of the pyramids were probably conveyed, may be seen in several places; and particularly in that part of the plan (marked B.) where there is a causeway about eight hundred feet long, formed of immense stones, leading to the building (A.) on the east side of the third pyramid. Herodotus† says, that when the great pyramid was designed, they began by making a causeway along which to convey the stone. This causeway was three thousand Greek feet in length, sixty in breadth, and forty-eight high at its greatest elevation: it was made of highly polished stone, covered with sculptures; and in the opinion of the Greek was as wonderful a work as the pyramid itself. When we consider the length and height of this causeway, it is evident that it was an inclined plane, rising from the level below, towards that on which the pyramids stood, and forming the most wonderful approach that ever was made, to the most wonderful work of human labour. It seems also probable, as the causeway commenced on the west side of the canal, already alluded to, that the heavy blocks (if we adopt the supposition of their being brought from the east side of the Nile) were brought by water to the bottom of this inclined plane, and carried up it to the level above.

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* See Description générale des Pyramides, vol. v., by Jomard. The numbers in the original are given to decimal parts, which was done with the view of accurately ascertaining a fixed point (the base of the north-east angle of the great pyramid), for the purpose of comparing the rise of the bed of the river and the valley at future epochs.

† ii. 124.

Pococke* noticed a causeway near Jizeh, a thousand yards in length, which he considered to be the approach to the great pyramid described by Herodotus; but this cannot be the case. Karakousch †, one of the emirs of Salah-eddin Yousouf, "employed the materials of the great pyramid in building the arches which we now see at Jizeh, and which are worthy of the greatest admiration, being like the work of giants. There were forty of them, but in the present year, 597 of the Hejira (A. D. 1200), the superintendence of these arches was committed to a blockhead, who stopped them up, thinking by this means to make the water inundate the lands of Jizeh, but the force of the inundation split three of the arches." These arches still exist near Jizeh; or at least, between Jizeh and the pyramids (on the east side of the canal, which flowed near the base of the pyramid-plateau), there are some arches and the remains of a causeway. The arches, according to the description, were constructed across some canal between Jizeh and the pyramids. The causeway of Karakousch, which extended from the river opposite to Fostat to the arches, was a route by which materials were brought from the pyramids to build the walls of Cairo and the citadel of the mountain. Pococke's causeway being east of that canal, which is near the base of the pyramids, and that of Herodotus commencing west of this line (as the length which he gives to it shows), cannot be the same. It has been objected to the causeway of Herodotus, that he makes it too low for the height of the plateau on which the pyramids stand, which, according to his own account, is one hundred feet above the plain, while the height of the causeway is only forty-eight feet. But this is not a correct interpretation of his meaning; he says that the highest part of the causeway *itself* was forty-eight feet, using a mode of expression[*], that is well understood by his readers. He says nothing of the absolute height of the causeway, which if it reached to the base of the great pyramid would be, according to his own account, one hundred feet in absolute height, though it is, in fact, one hundred and thirty-eight feet high. The historian is directing our attention to the magnitude of the work, and in doing this, he remarks that in *some parts* the causeway is as much as forty-eight feet high, owing, of course, to some inequalities in the ground. It is almost unnecessary to remark, that it might happen that the height of the causeway itself would diminish as it came nearer to the top of the plateau; and as it would not have a horizontal base for all its distance, but would rise with the ascent of the ground, it is clear that a height of forty-eight feet, for the highest part of the *causeway itself*, is quite as much as can be true. In the French plan of the pyramids there is represented a kind of approach to the great pyramid, one thousand three hundred feet long in its present state, and containing enormous stones; but none of them are sculptured, so far as is yet known. This may be a remnant of the causeway of Herodotus, but it is not the causeway which Pococke describes.

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* See vol. i. p. 37.

† See De Sacy's Abdallatif, p. 171.

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[*] ii. 127. Ὕψος δὲ τῇ ὑψηλοτάτη ἐστὶ αὐτὴ ἑωυτῆς ὀκτὼ ὀργυιαί.

Before we come to the more minute detail, we must take some notice of the ordinary adventure of ascending the great pyramid, about the difficulty and danger of which there is as much discrepancy as can well be imagined. Some people, even ladies, and stout ones too, ascend with great ease and enjoy the prospect; others find it a very laborious and even a dangerous undertaking. Both accounts may be perfectly true. The faculty or taste for climbing is different in different persons; but we may conjecture that part of the discrepancy arises from the fact of some having ascended by the face or steep line, and others by the longer but less difficult line, of the exterior angles.

We give the following extract from Mrs. Lushington's account of her ascent, because she tells her own feelings and experience in a very ingenuous manner; and her description will show what kind of difficulty there really is in mounting the pyramid, and what is the present state of the outer surface of this enormous mass.

"On my arrival*, I saw some persons nearly at the top, and some just commencing the ascent. They were all at the very edge, and certainly their apparently perilous situation justified me in the conviction that I never should be able to mount. However, determining to make the attempt, I commenced outside from where the entrance has been formed, and walked along the whole length of one side of the square,

* p. 147.

about forty feet from the ground to the opposite corner; the ledge being narrow, and in one place quite broken, requiring a long step to gain the next stone. As the pyramid itself formed a wall to the right hand, and consequently an apparent defence, I felt no want of courage till I reached the corner where the ascent is, in many places, absolutely on the angle, leaving no protection on either side. About this time I began to be heartily frightened; and when I heard one gentleman from above call to me to desist, and another tell me not to think of proceeding, right glad was I to return, and to attribute my want of success to their advice rather than to my own deficiency of spirit. Each of the gentlemen, as they descended, told me the difficulty and fatigue were great, and they evidently were heated and tired; but at length, in answer to my question, a hundred times repeated, of Do you think I *could* go? they proposed to me to try at least, and kindly offered to accompany me.

"Away I went, and, by the assistance of a footstool at some places, and the aid of the guides, and the gentlemen to encourage me, I succeeded in arriving half way, all the way exclaiming, I shall never get down again; and, indeed, my head was so giddy, that it was some minutes after I was seated, at the resting-stone half way, before I could recover myself. Being a little refreshed, I resumed the ascent, but the guides were so clamorous, that I turned back, finding their noise, and pushing and crowding, as dangerous as the height. The gentlemen at length brought them to some degree of order, partly by remonstrance, and partly by carrying the majority to the top, and leaving only two with me. This quiet, in some degree, restored my head, and the footing, as I advanced, becoming more easy, I reached the summit amidst the huzzas of the whole party. It was a considerable time, however, before

I gained confidence to look around, notwithstanding I was on a surface thirty feet square.

"The prospect, though from so great an elevation, disappointed me. I saw, indeed, an immense extent of cultivated country, divided into fields of yellow flax and green wheat, like so many squares in a chess-board, with the Nile and its various canals which cause their luxuriance, and a vast tract of desert on the other side. I must, however, acknowledge that this scenery I enjoyed on recollection, for I was too anxious how I was to get down, to think much of the picturesque. A railing, even of straws, might give some slight idea of security, but here there was absolutely nothing, and I had to cross and recross the angle, as the broken ledges rendered it necessary; for it is a mistake to suppose there are steps: the passage is performed over blocks of stone and granite, some broken off, others crumbling away, and others, which having dropped out altogether, have left an angle in the masonry; but all these are very irregular. Occasionally the width and height of the stones are equal, but generally the height greatly exceeds the width; in many parts the blocks are four feet high."

We add one more brief description of the view from the top of the great pyramid, as given by a traveller*, whose enthusiasm made him forget to mention whatever of real difficulty there may be in mounting the pyramid of Cheops.

"We went there to sleep, that we might ascend the first pyramid early enough in the morning to see the rising of the sun; and accordingly we were on the top of it long before the dawn of day. The scene here is majestic and grand, far beyond description; a mist over the plains of Egypt formed a veil, which ascended and vanished gradually as the sun rose and unveiled to the view the beautiful land, once the site of Memphis. The distant view of the smaller pyramids on the south marked the extension of that vast capital; while the solemn endless spectacle of the desert on the west inspired us with reverence for the all-powerful Creator. The fertile lands on the north, with the serpentine course of the Nile, descending towards the sea; the rich appearance of Cairo, and its numerous minarets, at the foot of the Mokattam mountain on the east; the beautiful plain which extends from the pyramids to that city; the Nile, which flows magnificently through the centre of the sacred valley, and the thick groves of palm-trees under our eyes;—altogether formed a scene, of which very imperfect ideas can be given by the most elaborate description."

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* Belzoni, p. 4.

The base of the great pyramid is a square, each side of which is 232·747 mètres, or 763·4 ft. This measurement was obtained along the base of the north side, between the extreme N.E. and the extreme N.W. angle, by digging down to the true base of the pyramid. A hole was found at the N.E. angle, 12·79 ft. long, 11·15 ft. wide, and about eight inches deep, which had contained the extreme N.E. stone of the pyramid. The vertical height from the base of the stone let into the foundation to the two broken steps on the top of the platform is a little more than 456 feet, as determined by measuring the separate steps, which are 203 in number; and if to this we add what is necessary to complete the apex of the pyramid, the total height will be about 479 feet*.

M. Jomard estimates the length of the *kernel* of the pyramid at 745·38 ft., which measurement he takes along the base of the line of steps which rests on the lower line of stones let into the rock. The difference between the two base lines is accordingly a little more than eighteen feet. M. Jomard allows two-thirds of this on each side, or about six feet on each side for the thickness of what he calls the casing at the base, which will make the whole base with its casing 757·88 ft. in length. The remaining three feet, on each side, he allows for the distance between the outer edge of the line of stones let into the rock, and the point where the casing meets the upper surface of this line of stones: this space would in fact form the first step.

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* Observations sur les Pyramides de Jizeh by Coutelle, in the Description, &c., vol. ix.

The whole height, as determined by M. Jomard from the following data—from *his* base, from the side of the platform at the top (which, with the casing, supposed to be there 4·788 thick on each side, gives a length and breadth of 42·246 ft.), and from the elevation of the platform above the base—is 472·956 ft. The dimensions which follow from these are,—

	ft.
Diagonal of the base	1069·457
Length of the perpendicular on the face of the pyramid	605·888
Length of the edge of the pyramid, formed by the intersection of two adjacent sides.	714·47

The height, as determined by M. Jomard, on the supposition of the pyramid being cased, is, as we have seen, 472·956 ft. In making this calculation M. Jomard deducts six feet, the height of the lowest course of stones, which is let into the rock. He also supposes, as just stated, that the outer casing commenced about three feet within the exterior margin of the base formed by the stones let into the rock: this of course would diminish the height, as it would give us the perpendicular of a less pyramid.

The various measures taken of the height of this pyramid by the French agree exceedingly well. The trigonometrical determination of M. Nouet, and the barometrical measure of M. Conté, as we are told, differ very little indeed from the measures of MM. Jomard and Coutelle. It should also be observed, that they all agree in making the steps two hundred and three, though other travellers have made them two hundred and eight, and even two hundred and twenty; and Niebuhr says that a man, if he were to ascend in different places on the pyramid, would find the number different: but this, if true, must arise from the steps being much damaged in some parts. The height of the steps decreases from the lowest to the highest; the greatest height being 4·628 ft., and the least 1·686 ft. The mean width of the steps is a little more than one foot nine inches, which is deduced from the length of the base, and the side of the platform at the top, which in its present state is thirty-two feet eight inches. Pliny makes the side of the platform, as it was in his time, twenty-five Roman feet.

The following are the angles of the pyramid:—

	°	″	′
Angle at the base of the triangle, forming one of the four faces	57	59	40
Angle of the vertex of ditto	64	0	40
Angle of an edge with the diagonal of the base	41	27	
Angle formed by two opposite edges .	97	6	
Angle of the face with the plane of the base	51	19	4
Angle of two opposite faces	77	21	50

From this it appears that the faces of the pyramid are not equilateral triangles, as has sometimes been supposed by antient writers.

	ft.
The perimeter of the base, measured round the stone let into the rock	3053·6
Measured round the intersection of the supposed casing, with the upper surface of the stone let into the rock, about . .	3030

The area of the base, taken at the lowest level of the stones let into the rock, is 64752·945 square yards, or about 13½ English statute acres. Taken as in the case of the smaller base, it will be about 63732·5 square yards. The surface of each face of the pyramid (reckoning only the part supposed to have been cased, and not including the base let into the rock) is 25,493 square yards, and that of the four sides consequently 101,972 square yards, or more than twenty-one English acres. The solid contents of the pyramid are 3,349,096* cubic yards, not deducting the space occupied by interior galleries and chambers.

The total height of the great pyramid, when complete, being four hundred and seventy-nine feet, is about fifteen feet higher than St. Peter's at Rome, and one hundred and nineteen higher than St. Paul's at London.

We will briefly notice what is said of this pyramid by Herodotus, the earliest traveller who has described it.

"Twenty† years were occupied in the building of the great pyramid, each face of which measures eight plethra (eight hundred Greek feet); it being quadrangular; and the height is the same. It is made of polished stones, fitted together with the greatest nicety*: none of the stones are less than thirty feet long.

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* A writer in the Quarterly Review observes, (vol. xix. p. 401,) that the solid contents are more than 85,000,000 cubic feet, or more than 3,148,147 cubic yards. It is also stated there, that the solid contents (not making any deductions for chambers in it) are six times the mass of stone in the breakwater at Plymouth.

† Herod. ii. 124, 125. The translation begins immediately after the words where the author is speaking of the chambers in the rock under the pyramid, which he understood to have been made before the pyramid, as must have been the case. In chap. 127 he also speaks of the subterraneous chambers of the great pyramid, and of the tunnel, cased with stone, by which the water of the Nile entered beneath the pyramid and surrounded the tomb of Cheops. M. Grobert, in his description of the pyramids of Jizeh, interprets this to mean a canal surrounding the pyramid, and he does not doubt the accuracy of the fact. His reasons in support of it are a proper accompaniment to his version of the text.

"The pyramid was made in the following manner, in the form of steps, which some call *crossæ* (battlements), and others *bómides* (little altars). When they had first built it in this fashion, they raised the remaining stones by machines or contrivances of short pieces of wood. They raised them from the ground to the first tier of steps, and when the stone had ascended to this tier, it was placed on another machine standing on the first row; and from this row it was dragged upon the second row on another machine. As many tiers of stones as there were, so many machines also were there; but according to another account (for I think it right to give both accounts as they were given to me), they transferred the same machine, it being easily moved, from step to step, as they raised each stone. The highest parts were accordingly finished first; then the parts next to the highest, and, last of all, the parts near the ground and the very bottom. It is marked in Egyptian characters on the pyramid how much was spent in furnishing the workmen with purges, leeks, and onions; and, as I well recollect what the interpreter said who explained the characters to me, it was 1,600 talents of silver."

This description is not quite free from obscurity. The "remaining stones" have sometimes been interpreted to be a kind of casing, formed of triangular prismatic blocks, which made the whole surface smooth.

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* Abdallatif also speaks, as indeed all travellers do, of the superior character of the masonry in the pyramids of Jizeh. The cement, says the Arab, that binds the stones together is a layer about the thickness of paper, and "he cannot imagine what it is made of." This cement is lime, with little or no sand in it.

All that we can safely infer from the passage of Herodotus is, that according to his notion, an outer series of stones was added by way of finish; and as they began this finish from the top, it is pretty certain that, according to his ideas, it could not have been an additional tier of stones, in the form of steps, but something that rendered it either impossible or very difficult to begin from the bottom. The general inference, then, is, that something like a smooth face was given to the pyramid, both for the purpose of improving its appearance, and also, perhaps, rendering it inaccessible; for we may perhaps infer from the silence of Herodotus that it was not the practice to ascend the pyramids in his time. Pliny (whether referring to his own age, or taking the fact from other authors—a distinction that Pliny seldom gives us the means for making) says that the people of Busiris, which is near the pyramids, were accustomed to climb them. We shall presently explain this matter of the casing.

The statement of Herodotus as to the magnitude of the stones is much exaggerated. M. Coutelle remarks (and we place great confidence in what he says), that the stones of the great pyramid, and those of the second, belonging to the outer covering, that are not taken away, rarely exceed nine feet in length and six and a half in breadth. The thickness or height of the steps in the great pyramid has been already stated. M. Coutelle remarks, that the height of the steps does not decrease regularly, as we ascend the pyramid, but that steps of greater height are sometimes interposed between steps of less height; but he adds, the same level and the same perfectly horizontal lines appear on all the faces. In the second pyramid the outer stones of the upper part, which still remain, are cut with the greatest nicety and made quite smooth, except on the side that is engaged in the interior masonry. The kernel or interior part of the pyramid is not built with the same care: the stones of each tier are not always of the same height, nor accurately joined: the vacant spaces are filled with coarse mortar, pieces of broken stone, and pebbles, a form of building which was quite sufficient for the interior parts. M. Coutelle remarks that no lines could be straighter, and no joinings more exact, than are observed in the interior of the great pyramid, and on the upper part of the exterior of the second. Herodotus describes the first pyramid as built of "polished stones, fitted together with the greatest nicety." Now, as this is not the case at present with the exterior of the great pyramid, which is so irregular as to have led Mrs. Lushington to say there are no steps, and Niebuhr to make the remark just quoted, it is clear that if the account of Herodotus is not a deliberate falsehood, an outer tier or casing of stones (by what name it is called is indifferent) has been taken from the great pyramid.

All travellers agree that there are not the slightest traces of this pyramid having ever had a casing, for so they assume that Herodotus describes it; while the second pyramid (attributed to Chephren), they say, has some of this coating on the upper part and none on the lower parts. This would seem to confirm Herodotus's account of the upper part of what is called his casing being finished first, but it might prove at the same time that the outward casing of the second pyramid was never completed; for, as Belzoni* argues, "if it had been finished to the basis, I should have met with some of the coating below, as the accumulation of rubbish over the basis would have kept the stones in their places, or at least enough of them to show there was a coating, as was the case in the third pyramid." Belzoni found that the third pyramid (that of Mycerinus) had been completely coated with granite, for part of this covering still remains in its

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* p. 280.

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place down to the base*, and became visible on removing the rubbish. Herodotus says that the pyramid of Mycerinus was built of Ethiopian stone (stone of Syene, granite) to "one-half," by which we believe he means, "was coated with granite halfway up."

With respect to this question of the coating of the great pyramid it is difficult to decide, as the evidence of Herodotus and the Arab writers is at variance with the opinion of nearly all modern travellers.

We know that the pyramids were used as building materials by the Arab conquerors of Egypt, and it is difficult to calculate how much damage may have been done in the course of several successive centuries of robbery. Karakousch, one of the emirs of Salah-eddin Yousouf, absolutely destroyed a number of small pyramids, and with these and other materials built the arches near Jizeh, which we have already mentioned, and decorated the capital, Cairo.

The following story also from Abdallattif will show the mischief that has been done and attempted by the Arabs.

"The Sultan Melic-alaziz Othman†, wishing to destroy the red pyramid (the third), sent a number of sappers, miners, and quarrymen, with orders to pull it down: they pitched their camp near the pyramid, got together a great number of workmen, and during eight whole months laboured hard at the job. Every day, after great exertion, they succeeded in removing one or two stones. Some at the top pushed the stones with levers and wedges, while others from below pulled with ropes: at last the stone would fall with a prodigious noise, and bury itself in the sand. Then was a fresh labour to get it out of the sand, to make holes in it for wedges, and to split it into smaller pieces. Finally, each piece was put on a car and dragged to the foot of the neighbouring mountain, where they threw it down. At last being quite wearied out they gave up the undertaking, having only done enough to spoil the pyramid and show their own impotence. This took place in the year 593 *."

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* Strabo says (p. 808), that this pyramid was coated halfway up with black Ethiopian stone, such as they make mortars of. Probably it was the granite that had grown dark, which he carelessly examined.

† De Sacy, p 177.

But, in addition to this, there is other testimony of a still more curious character. It is well known that no hieroglyphics have been found on the pyramids, or on the sarcophagi discovered in them. Hence some argue that they were erected before the use of this species of writing or embellishment, and consequently are the oldest buildings in Egypt—a conclusion which appears to rest on weak grounds. But in one of the tombs (to the west of the great pyramid), which is in a very ruined state, Belzoni observed a block that was used in its construction, with the "hieroglyphics and figures reversed," and "the hieroglyphics so preserved within as if they were to be hidden from the view." The value of this evidence may be disputed, because the age of the tombs is doubtful; but still they are Egyptian tombs, built of materials which had been used before, and a hieroglyphic block is found among them. They are therefore buildings of great antiquity, but without hieroglyphics, which in this instance seem to have been carefully concealed. It may, then, have been the design of the pyramids also, as Belzoni argues, to be without hieroglyphics. We doubt the soundness of this hypothesis, and would rather attempt to show that the pyramids once had hieroglyphics on them, from the following evidence: Abdallattif speaks of these pyramids being covered with an unknown character which nobody in Egypt could understand; and he adds, in the

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* Commenced Nov. 1196. De Sacy.

style of oriental hyperbole, "these inscriptions are so numerous that if one were to copy only those on the surface of the two (larger) pyramids, it would fill more than ten thousand pages." In addition to this evidence, the reader may examine what De Sacy has collected in his notes from other Arab writers, and Jomard in his remarks on the pyramids, as to the inscriptions on the pyramids, and he will find it rather difficult to believe that they are all telling a falsehood. Finally, we have the testimony of Herodotus, as to a particular inscription on the great pyramid, which by no means excludes the probability of other inscriptions; and we have his evidence most distinctly, to show that the grand ascent or staircase, from the plain to the level of the pyramids, was made of stone and covered with intaglios*, like the propyla of Luxor and Edfou. The pyramid adjoining the labyrinth was also adorned with large intaglios: it was however recent, compared with the oldest buildings of the country, having been constructed during the dodecarchy, according to Herodotus.

Herodotus† was told that the great causeway already described, as well as certain chambers under the pyramid, cut in the solid rock, were made before the building of the great pyramid itself was commenced. He was informed also that a tunnel from the Nile (probably the canal near the Libyan chain is meant) was constructed, leading to a vault under the pyramid, and entirely surrounding this chamber. In this insulated room the body of Cheops was placed. But under the second pyramid, he says, there are no chambers; but here the father of history was wrongly informed. Strabo‡ speaks of an opening in one side of the great pyramid, from which a long but not a straight gallery (*σύριγξ σκολιά*) led down to the place where the sarcophagus was deposited; and Pliny tells us of a well under the great pyramid, eighty-six cubits deep, into which the river-water flowed. The connection of this well with the river is evidently the same fact that Herodotus mentions, which Pliny might have found in him, or in some other of the various writers on the pyramids to whom he refers[*]. As to the meaning of the word depth, it must be the depth from the base of the pyramid that is meant, if the junction of the well with the water is admitted as a probable fact. Pliny's expression by no means implies that he disbelieved the story: had it been more wonderful he would have liked it still better.

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* ii. 124. *λίθου τε ξεστοῦ καὶ ζώων ἐγγεγλυμμένων.*

† ii. 127.

‡ p. 808.

The entrance to the great pyramid is on the north face, about forty-seven feet and a half above the base, and on the level of the fifteenth step, reckoning from the foundation[†]: it does not lie quite in the perpendicular, which would bisect the face of the triangle, but is, according to Mr. Davison, three hundred and fifty feet from the north-east and three hundred and ninety-six from the north-west angle; or, according to M. Jomard, a vertical meridian plane touching the *east* side of the entrance is 20·8 feet *east* of the perpendicular bisecting the face of the pyramid. The entrance is easily reached by the mass of rubbish at the base of the pyramid, which has chiefly fallen from the top. The gallery or passage to which this opening leads is three feet seven inches and a half square, with a downward inclination of 26°, or 26° 30′ at the most: it is lined with calcareous slabs well joined together. Till the excavation of Caviglia, which will presently be mentioned, this gallery was only followed for a length of seventy-three feet[‡]. The next gallery, which is an

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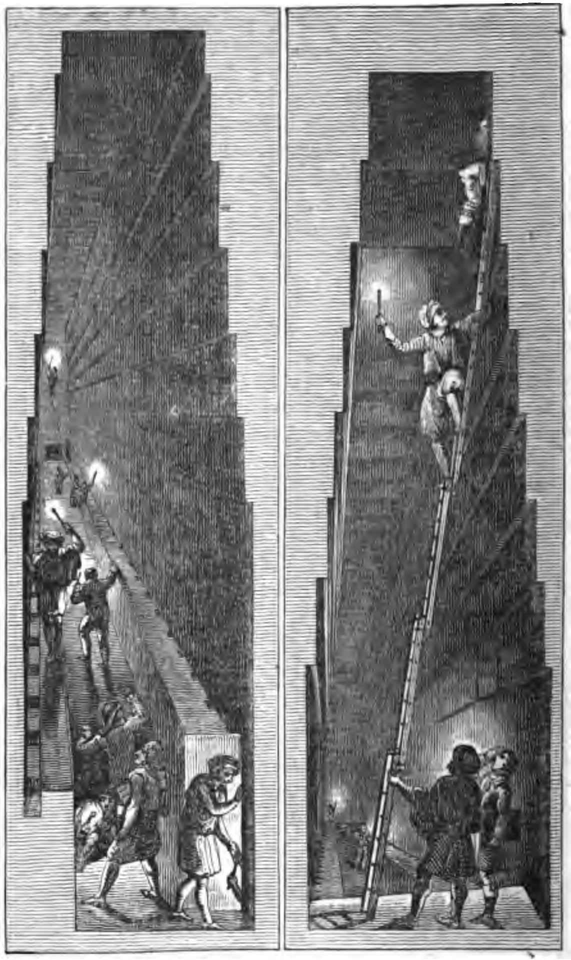
[*] xxxvi. 12.

[†] See the section of the great pyramid, Egypte, Antiquités, v.

[‡] We follow the measures of Coutelle, Descript. de l'Egypte, vol. i.: there are some small discrepancies between the accounts of Jomard and Coutelle.



From the French Work, vol. v. pl. 13. Views of the high gallery in the Great Pyramid, taken from the lower and upper landing-places.

ascending one, has a slope of twenty-seven degrees, and of course the angle formed with each other by the two passages is one hundred and twenty-seven degrees. This gallery is 108·697 feet long, of the same width and height as the first, and in the same vertical plane. Its entrance is closed by a large block of granite, but a passage has been made round it in the calcareous stone by some explorer of the pyramid, and the second gallery is now entered by turning round this block of granite on the right side. At the end of this ascending gallery there is a platform, where a horizontal gallery commences, of the same height and width as the two galleries already described, and in the same plane; and also at the end of this ascending gallery, on the right hand, is the opening of the well or pit which leads down into the body of the pyramid. This horizontal gallery, which is about one hundred and twenty-seven feet long, leads to a chamber, called the Queen's Chamber, about seventeen feet long and fourteen wide, and about twelve high, with a roof of flat calcareous stones placed so as to form an angle. When the explorer is at the commencement of this horizontal gallery, he may continue exactly in the line of the ascending gallery already described, when he will enter another gallery, about one hundred and thirty-two feet long, twenty-six and a half high, and near seven wide. At the top of this gallery is a landing-place, from which a short passage leads to a small chamber or vestibule, from which another short passage leads to the chamber of the king. This chamber, as well as the vestibule, and all the space from the entrance of the vestibule, is lined with large blocks of granite well worked. The dimensions of the chamber, the length of which is from east to west, are —

	ft.
Height	19·214
Length on the south side	34·348
Width on the west side	17·056

The dimensions of the north and east sides are a very little less than those of the corresponding opposite sides. The vertical plane, which coincides with the east side of the entrance, is twenty feet nine inches from the vertical meridian plane bisecting the pyramid: the east side of the entrance and the east wall of the King's Chamber are in the same vertical plane; and as half the length of this chamber from east to west is seventeen feet two inches, it follows that the vertical meridian plane bisecting this chamber is two feet seven inches east of the plane bisecting the pyramid *. The roof is formed of nine slabs of granite, reaching from side to side in the direction of the breadth of the chamber. This chamber contains, at the west end, a granite sarcophagus, lying from north to south; the cover is gone, having probably been broken and carried off. The sarcophagus is seven feet six inches and a half long, three feet three inches wide, three feet eight inches and a half high (on the outside), and about seven inches and a half thick in the base. There are no hieroglyphics upon it. The two first galleries, it will be remembered, are three feet seven inches and a half in the square, which, if the dimensions are rightly given, is just too little to admit the sarcophagus. But the entrance of the vestibule is still less, being three feet seven inches and a half high and three feet five inches wide; the entrance to the sarcophagus chamber is the same height, and the width a small fraction of an inch less. If these dimensions are correct, the sarco-

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* This result does not exactly agree with what is stated by Jomard. Antiq. Mém. vol. v. p. 622.

phagus could not have been brought through the galleries after they were completed.

Mr. Davison discovered a chamber immediately over the King's Chamber, which is now called Davison's Chamber. It is reached by mounting, with the help of a ladder, to a hole at the top of the upper part of the high ascending gallery. The stones which form the ceiling of the King's Chamber, form also the floor of this upper chamber; but the room is four feet longer than that below; "in the latter you see only seven stones, and a half of one, on each side of them; but in that above, the nine are entire, the two halves resting on the walls at each end." This chamber is about three feet three inches high, according to M. Coutelle, who does not seem to have known that Davison had visited it before him. Coutelle, however, says that its length and breadth are the same as in the room below, in which he appears to be mistaken*.

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* We take this opportunity of correcting an erroneous statement about a distinguished traveller, which in itself is unimportant: but as it has been repeated in subsequent compilations, and as misstatements generally increase by transmission, we may be excused for stopping its further progress. "Mr. Davison discovered a room over the chamber containing the sarcophagus, which had escaped Maillet, though he had been forty times within the pyramid; which Niebuhr could not find, though told of it by M. Meynard, who accompanied Mr. Davison: and which had not been visited by any other traveller until last year (1817)." (Quarterly Review, vol. xix. p. 391.) Mr. Davison went to Egypt in 1763 (Quarterly Review): Niebuhr visited the great pyramid about May 1762. The absurdity of the remark, that Niebuhr could not find the room, though told of it,—that Niebuhr could not find what any body might find, after it was once pointed out,—would of itself be sufficient to overthrow the statement, without the dates which we have just given, and without the honourable traveller's own authority. "I was not so fortunate as to discover a chamber hitherto unknown, which was found by Mr. Davison after we left Egypt. This does no great credit to my observation; but since Maillet, who boasts of having been

Mr. Davison descended the well during his stay in Egypt. He found that it consisted of several shafts, making in all one hundred and fifty-five feet, which is a greater depth than Pliny's well. In 1816 Captain Caviglia also descended to the bottom of the well, and found that in one part, below the point where the excavation is in the solid rock beneath the pyramid, the shaft was lined with masonry, which it is conjectured had been done on account of a flaw in the rock. Captain Caviglia also discovered that the entrance-gallery did not terminate where it was supposed to do, at the bottom of the ascending* gallery, but was merely blocked up with earth and rubbish. After removing these he advanced on the

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more than forty times in the pyramid, had not seen it, I may be excused if I expected to find no new chambers here, but rather busied myself with making other observations. This chamber, according to the description given me by Meynard, is above the chamber that contains the sarcophagus. It is the same size, but not so high, and the entrance is thirty feet above the glacis which leads to the large chamber." Copenhagen edition, i. 199. The writer in the Quarterly has not noticed Coutelle's visit to this chamber. The French, in their great work, have represented a man making his way into the hole at the top of the gallery which leads into the small chamber; and M. Jomard, eager to maintain the honour of his nation, says, "that Niebuhr attributes the discovery of this chamber to Mr. Davison; but, according to the passage of Niebuhr, it was seen at the same time by M. Meynard, a French merchant." The inference might be that M. Meynard was as much the discoverer as Davison. The extract already given from Niebuhr may correct this. As Niebuhr was told that the chamber, though lower than the King's Chamber, had the same length and breadth,—as MM, Jomard and Coutelle say the same, and as this is not the case,—it appears pretty certain that they did not take these dimensions. M. Coutelle, in his memoir, says that this chamber had, perhaps, not been visited for many centuries, though M. Jomard, as we have just shown, has said quite the contrary.

* See the section of the great pyramid in the Description de l'Egypte, vol. v. Antiquités.

same inclined plane to the distance of two hundred feet, till he came to a door-way on the right, the channel from which opened straight upon the bottom of Mr. Davison's well. But the passage still continued in the same direction twenty-three feet further, then became narrower, and went in an horizontal direction twenty-eight feet more, when it opened into a large chamber cut in the rock, and under the centre of the pyramid. This apparently is the chamber alluded to by Strabo; but there was no trace of a sarcophagus in it. It is about sixty-six feet by twenty-seven, with a flat roof, and very irregular floor, in the middle of which is a hollow something like the commencement of a shaft. This, however, is neither the tomb of Cheops nor the well of Pliny, being about thirty feet above the highest level of the Nile, and having no inlet. It is true there is a long passage which leads from this chamber to the length of fifty-five feet, but it terminates abruptly. But it has been well remarked, if we consider the enormous mass of the pyramid, that there may be more than a thousand chambers still unopened, and many more chambers also cut out of the solid rock on which it rests. This pyramid, doubtless, has been entered, as we infer from various traces, both by the Romans and the Arab conquerors* of Egypt. Captain Caviglia ascertained one curious fact. The rock which shows itself externally at the north-eastern angle is seen again in the main passage, and near the mouth of the well. The highest projection of it into the body of the pyramid is about eighty feet above the base.

Strabo appears to refer to the opening on the north side of the great pyramid when he speaks (Casaub.,

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* Abdallattif went a short way into the great pyramid, but was so frightened that he came back half dead. He knew there was a chamber with a sarcophagus in it.

p. 808,) of there being a stone there which could be taken out (λίθος ἐξαιρέσιμος); though it is true, he places the opening about halfway up the pyramid (if his meaning can be made out), in which he is as inaccurate as in the relative proportions of the height and base.

The dimensions assigned by Herodotus to the great pyramid are very inexact. Diodorus (i. 63) makes the side of the base of the great pyramid seven hundred Greek feet, which is not very far from the truth: he gives the altitude at six hundred feet, which, if we take it to be the altitude measured on a face of the pyramid, is pretty exact. Pliny makes the side of the base of the large pyramid eight hundred and eighty-three Roman feet *. The oldest measure of the base that we can find reported by the Arab writers is five hundred Arabic cubits for the side of the base, which, according to M. Jomard, agrees exactly with the value of the modern Arabic cubit.

M. Coutelle remarks, that the temperature within the pyramid was always 22° Réaumur, or 81°·5 Fahrenheit, during each visit that he made. In his descent into the well, he found it still higher. The clearing out of the rubbish by Caviglia, and the consequent circulation of air through the well and the descending gallery, will probably reduce the temperature.

The total depth of the well is stated at one hundred and fifty-five feet by Mr. Davison. The base of the pyramid is about one hundred and sixty-four feet above the low-water mark of the Nile; and as the top of the well is about sixty-two feet above the base of the pyramid, the well is only ninety-three feet in the

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* M. Jomard remarks that this measure will be perfectly correct if we read 833 (DCCCXXXIII) in Pliny's text instead of 883 (DCCCLXXXIII), and if we take the Roman foot at 2·771 mètres, or 10·9 English inches.

solid rock, and the bottom of it is therefore seventy-one feet above the low-water mark of the Nile, or forty-five above the mean level of the high floods of the river. But the French make the whole depth of the pit 207·75 feet, of which about 145·43 will be in the solid rock: according to this account, the bottom of the well (as far as the French explored it) is about eighteen feet six inches above the low-water mark, and consequently below the level of the present high-water mark of the river. M. Coutelle, who explored the well, and who is the French authority for the depth, remarks, that in clearing out about fifty-two feet of rubbish that had fallen to the bottom, he had penetrated to a depth of more than fifty feet below the level of the Nile, when "the military operations, which recalled our escort to their different corps, compelled us to desist." These fifty-two feet, added to the one hundred and fifty-five of Mr. Davison, will make up the whole depth of two hundred and seven as given by the French; but M. Coutelle's notion of this being below the present level of the Nile is inconsistent with the accurate determination by the French of the elevation of the base of the pyramid, above referred to. It would appear that, in the interval between Davison's and Caviglia's descent, the well had been deepened fifty-two feet by Coutelle, which fact is not noticed in the article in the Quarterly Review (vol. xix.), which describes Davison's and Caviglia's descent; and the depth of the well is accordingly still considered in that article to be only one hundred and fifty-five feet, with the little addition to this depth made by Caviglia's discovery. Captain Caviglia could not have found so ready a communication between the descending gallery which he excavated and the perpendicular pit, if the rubbish had not been cleared out of the latter by the French. If the French measurements are correct, it is clear that the level of the bottom of the well is between the present levels of high and low water in the Nile: as to the accuracy of the story in Herodotus about a communication between the well and the river, we have no opinion to offer.

We must here remark, that the French section of the pyramid cannot be correct, if it be true that the descending entrance-gallery is continued in the same plane to the level of the base of the well. According to the French plan (vol. v.) the prolongation of the descending gallery (as discovered by Caviglia) cuts *their* well at a point at least one hundred feet from the bottom of the well. There is some inaccuracy either in the French section of the well, or in the other description of the well, or in both. Captain Caviglia's excavation of two hundred feet, which brought him to the bottom of the well, cannot possibly be reconciled with the angle of inclination of the excavation (stated to be 26°), and with the position of the well as given in the French work. The statement in the Quarterly Review of the bottom of the lowest chamber discovered by Captain Caviglia being thirty feet above the level of high-water, is inconsistent with the French determinations of the level of the great pyramid, and also with the real depth of the well, which appears to be more than one hundred and fifty-five feet.

The second pyramid is called by Herodotus the pyramid of Chephren (ii. 127). The dimensions are—

	ft.	
Side of the base	682	Jomard.
	684	Belzoni.
Perpendicular height . . .	452·64	J.*
	456	B.

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* He gives also in a note 238·7 mètres, which is nearly the measure of Belzoni.

Perpendicular bisecting the face of the pyramid	ft. 568	Belzoni.
Coating from the top to the place where it ends	140	B.

M. Jomard supposes that this pyramid may have lost about three feet from the top. From these data, the other dimensions and the angles of the pyramid may be calculated. The angle which measures the inclination of each face to the base is 52°·50, and consequently this pyramid has a steeper ascent than the first. This second pyramid is said by M. Jomard to rise not from the level of the natural rock, but out of an excavation or deep cut made in the solid rock all round the pyramid. The rock in which this excavation has been made is higher than the rock on which the great pyramid stands; and the faces of the rock (at least on the north and west), which are parallel to the corresponding sides of the pyramid, are cut perpendicularly *, and galleries are formed in the solid rock, to which there is access by small doors also cut in the rock. It would appear not improbable, then, that the first and second pyramids stand on the same level, but this cannot yet be ascertained, since neither the elevation of the natural rock at the second pyramid, nor the depth of the excavation, seems to be accurately determined. It is possible that the obscure passage in Herodotus † (ii. 127) may refer to this

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* Grobert (Descript. des Pyramides de Jizeh), p. 22, speaks also of hieroglyphics cut on these perpendicular faces; but we doubt the fact.

† Speaking of the second pyramid, he says, *τεσσεράκοντα πόδας ὑποβὰς τῆς ἑτέρης τὠυτὸ μέγαθος ἐχομένην τῆς μεγάλης οἰκοδόμησε*. The edition of Hervagius (Basel, 1557) has a comma after *ἑτέρης*, and *οἰκοδομῆς* (the reading of all the MSS.) for *οἰκοδόμησε*, a correction of Henry Stephens. The note of Schweighäuser on this passage is good. He shows that there is no occasion to alter *ὑποβὰς* into *ὑποβᾶσαν*, or any thing else, and that the words simply mean, that, in building this second pyramid, the king went forty feet lower than the first, that is,

excavation. Pliny allows seven hundred and thirty-seven Roman feet to the side of this pyramid, which, taking the Roman foot at the value above indicated, will give 669·417 English feet for the side of the base.

Belzoni, after great exertion, succeeded in opening this second pyramid: for a more detailed account of the difficulties which he had to encounter, we refer to his own work*. He found the entrance on the north side, and similarly situated to that in the great pyramid, that is, to the east of a vertical meridian plane bisecting the pyramid. The passage was four feet high, three feet six inches wide, and formed of large granite blocks. It descended towards the centre for one hundred and four feet five inches at an angle of 26°; and was nearly filled up with rubbish, which it was necessary to remove before any progress could be made. After passing a kind of portcullis, formed by a block of granite at the end of this passage, Belzoni observed that the whole was cut in the solid calcareous rock. He then went through a passage twenty-two feet seven inches long, descended a well fifteen feet deep, and went along another passage which inclined to the north (Belzoni's description is almost unintelligible). This led to a horizontal passage, which finally led to the main chamber, which was cut out of the solid rock to the length of forty-six feet three inches, and the breadth of sixteen feet three inches. It is twenty-three feet six inches high; the covering is made of blocks of calcareous stone, meeting in an angle, and forming a

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he made it forty feet less, with reference to the same or an equal height. This is certainly the most simple interpretation of the passage, and it is perhaps unnecessary to suppose that it has any reference to the excavation round the second pyramid. See the note by Coutelle on the level of the base of this pyramid. Antiq. Mém. vol. ix. p. 286.

* i. 397.

roof of the same slope as the pyramid. This roof is pointed. The sarcophagus in this chamber was formed of the finest granite, but without a single hieroglyphic; it is eight feet long, three feet six inches wide, and two feet three inches deep in the inside. Some bones were found in it, which proved to be those of a bull. From an Arabic inscription on the wall at the west end of the chamber, it appears that some of the Arab rulers of Egypt had opened this pyramid, and closed it again. Belzoni also discovered another chamber in this pyramid.

The materials of the pyramids are calcareous stone, which it is most natural to suppose would be taken from the rock on which they stand. Accordingly, Belzoni is of opinion, that part of the materials of the second pyramid were procured immediately on the spot. He inferred this, partly from observing, that the rock surrounding the pyramid on the north and west was "on a level with the upper part of the chamber," and from the rock being evidently cut all round. He adds further, "if any traveller will go within less than half a mile of the pyramids, particularly on the east and south sides, he may see many places where the rock has been formerly quarried to a great length; and he will find that there is stone enough to build many other pyramids if required." Herodotus certainly understood that all the stone was brought from the mountains near Cairo, where there are indeed antient quarries of great extent; but it seems probable that the chief material came from the west side of the Nile. The granite slabs were of course brought from Syene, which alone is sufficient to prove the pyramids are not among the oldest buildings of Egypt; as such a material must have been used for other purposes nearer its locality, long before it would be transported near five hundred miles, merely to decorate the pyramids. Besides this, the very superior manner in which the pyramids of Jizeh are constructed indicates them as posterior to the other pyramids and to most of the antient buildings.

In speaking of the great pyramid, we have translated the words of Herodotus literally, without however adopting the common notion, that after the pyramid was built in the form of receding stages or steps, it was completed by filling up the receding spaces with prismatic blocks, beginning at the top. Herodotus may or may not have correctly described the mode of building the pyramids; but we must take the plain meaning of the text as the expression of what he meant to say. The second pyramid, as already observed, is said to retain a large part of what has been usually called its casing; but Belzoni is of opinion that the casing was never completed. M. Jomard describes this covering as a compact limestone. At a distance, large spots appear on it, some of which are produced by the dung of birds, and others of a reddish appearance, by a species of lichen, hitherto undescribed. But he is inclined to think, that the lower part was covered with granite (Herodotus says the same) *, from having seen several prismatic blocks of granite lying at the bottom of the steps, and one lying in the direction north and south, and about nine feet from the south-west angle of the pyramid. M. Coutelle, on the contrary, decides, we think correctly, that these prismatic blocks, as Jomard calls them, could not have been used in the construction of the pyramid.

The ascent of this pyramid is difficult, but not impracticable, as it has been accomplished by several travellers, and was done by several of the French soldiers, though M. Jomard did not accomplish it. He made his way up to the projecting part of the casing, which he describes as four feet three inches

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* Τὸν πρῶτον δόμον λίθου Αἰθιοπικοῦ ποικίλου, ii. 127, which strictly interpreted means only a single tier of stones.

thick: "then I was under the shade just as if I was under a roof, but rather uncomfortable, because the stones seemed to hang on nothing: this is, doubtless, an illusion caused by the overhanging of these enormous masses (biseaux), by which the head is threatened. I observed at the edges the peculiar arrangement of the stones; they lap over and lock into one another, so that they are inseparable, and hold the covering fast to the nucleus of the building." M. Coutelle is not of opinion that the receding steps of the second pyramid were filled up with triangular prisms, as Herodotus*, he says, describes it; but it was all covered with a tier of harder stones, the exterior angles of which were cut off so as to give the whole pyramid at a distance a smooth appearance. What is now called the coating of the pyramid, is in fact what remains of the outer tiers of stones, while the overhanging mass, described by M. Jomard, which forms a kind of cornice, is caused by the outer tier of stones in the lower part of the pyramid having been carried away by the Arab conquerors of Egypt, while the upper tiers still remain in their place. The outer stones being of better quality, or at least better worked, would be more serviceable for building than those forming the nucleus of the pyramid, and the lowest being most easily got at, would of course be carried off first†. Niebuhr‡, who ascended the second pyramid in the year 1762, states, there is no difference between the outer stone and the rest of the pyramid, of which he convinced himself by bringing a specimen from the upper part. "In this pyramid," he says, "the last labour of the architect appears to have been, to cut away all the stones that projected, and thus to make the four sides from the top to the bottom quite even." He considers the lower part that has disappeared to have fallen down, or to have been thrown down by the wind, after being damaged by the action of the atmosphere. He asks why the (modern) Egyptians should have given themselves the trouble to get stones from the pyramids when they could have got them better from Mokattam, or from the hill on which the pyramids stand? This question is not difficult to answer. We know that many small pyramids have been demolished for the stones, and it is obviously more convenient to take stones that are already formed into shape, than to cut them out of a quarry.

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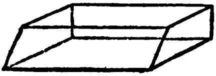
* We have seen what Herodotus does say, and he says nothing of the kind.

† M. Coutelle adds, in a note, that some of the stones which form a projecting cornice, owing to those under them being taken away, bear the marks of the hole made in them to break them. One particularly, on the east side, bears the mark of the iron wedge, and the stone is split. The small quantity of stones at the base of the pyramids, compared with the enormous mass that has been taken from them, proves that the stone was carried off for building.

‡ i. p. 198, Copenhagen edition.

We believe that we can now explain this matter of the casing in a tolerably satisfactory manner. It appears that all the outer tiers of stones in the two pyramids, whether of finer quality than the rest or not, were arranged with some more care, and better worked, than the stones of the interior. There is no doubt, also, that the salient edges formed by each tier were cut off, so as to give the sides a tolerably smooth surface; for it seems, as Niebuhr observes, not to have been the intention of the architect that these buildings, when finished, should be ascended, nor indeed entered at all, as the openings were carefully blocked up. The immense mass which M. Jomard saw over his head, was the under side of the stone which was in a position immediately above that which once occupied the vacant space where he stood. Now this being apparently the explanation of the casing, as it is called, the only question is, whether the last outside stones were carried to their respective places and then cut so as to form a plain surface on the side of the pyramid, or whether, as Herodotus seems to have understood it, the stones were carried up ready cut: this latter method would evidently be a saving of trouble. Coutelle objects to the notion of triangular prisms being used to fill up the spaces, that this would be an insecure way of building; and so it would: but it is not necessary to suppose that the outer stones were carried up entire, and then cut. The stones might have been cut in the following form,



and in this state applied to the pyramid, beginning at the top and going down to the bottom.

The third pyramid is said by Herodotus (ii. 134) to have been built by Mycerinus, the son of Cheops, and the nephew of Chephren: "its base, which is quadrangular, wants twenty feet of being three hundred feet; and one-half is made of Ethiopian stone." Its dimensions, given by M. Jomard, are—

	ft.
Base (measured on the north side) . .	330
Height (not determined with great accuracy)	173·84
Angle made by plane of the face with plane of the base, about	45°

The dimensions of Herodotus here fail in being too small. Pliny makes the side of the base 363 feet, which is about thirty feet too small if the Roman foot is 10·9 inches. He* also speaks, in his usual ambiguous way, of its being built of Ethiopian stone

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* Tertia minor prædictis, sed multo spectatior, Æthiopicis lapidibus assurgit, ccclxiii pedibus inter angulos. Lib. xxxvi. 12.

(granite). Belzoni* says that he found on the north side a considerable number "of blocks of granite, which had evidently formed the coating. Proceeding yet lower, as I cleared away the rubbish, I found that part of the coating still remained in its place down to the base." Had he given us the dimensions and angles of these blocks, which, as he says, evidently formed the coating, we could have determined how they were applied, whether in the form of triangular prisms, or, what would be a better mode of building, in the form of parallelopipeda†, with one edge cut off, so as to make one side an inclined plane, with an inclination equal to that of the side of the pyramid. This pyramid has not been opened, but it is probable that it might be entered, like the rest, on the north side.

A fourth pyramid, south of the third, has its axis in the meridian of the third pyramid, according to Colonel Jacotin, and so it is represented in the French plan of the pyramids. But M. Jomard, in his plan, made the east side of it coincide with the east side of the third. The base of this pyramid is not probably more than one hundred and thirty feet; the French attempted to demolish it, but did not succeed. Two pyramids to the west of this consist each of four receding platforms, like the Mexican pyramids: the several divisions of these pyramids are ascended by high narrow steps: the summit is a platform.

Three small pyramids appear in the plan on the east side of the large pyramid. That in the middle appears to be the pyramid which was built, as Herodotus tells us, by the daughter of Cheops: he describes it, if we understand him right (about which we are not quite sure), as the middle one of the three, in front of the large pyramid. The story of the lady and her lovers is a singular specimen of the kind of gossiping tradition that was prevalent in Egypt, and is only worth alluding to in this point of view.

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* i. 435.

† Since writing this we have been informed by a friend well acquainted with the pyramids, that these blocks are parallelopipeda, with one edge cut off, as represented in p. 237.

There are several large pyramids at Sakkârah and Dashour. One at Dashour, according to Mr. Davison*, has a base, each side of which is seven hundred feet, a perpendicular height of three hundred and forty-three feet; and one hundred and fifty-four steps. There is an entrance into it on the north side, which leads down by a long sloping passage, and then by an horizontal one, to a large room, the upper part of which is constructed of stones of polished granite, each projecting six inches beyond that below, and thus forming in appearance pretty nearly a pointed arch. This pyramid contains other chambers. It has a little of the outer covering remaining on the top. Another pyramid has a base line of six hundred feet; at the height of one hundred and eighty-four feet, the plane of the side is changed, and a new plane of less inclination completes the pyramid, with a height of two hundred and fifty feet more. The platform is thirty feet square†. The entrance-passage, which is on the north face, cuts the side of the pyramid at right angles; and as the inclination of the passage is 20°, according to M. Jomard, it follows, if the two data are correct, that the face of the‡ pyramid makes an angle of 70° with the base—a very sufficient reason for diminishing the angle higher up. In its present state the pyramid consists of one hundred and ninety-eight steps, sixty-eight large steps from the ground to the angle, and one hundred and thirty smaller from the angle to the top.

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* In Walpole's Memoirs; Jomard, Description de l'Egypte, vol. v.

† Jomard says the pyramid retains its sharp point.

‡ Jomard says the stones of the casing, as he calls it, are at right angles to the planes of the faces.—Is this so?

This pyramid is built of a hard white stone, which contains fossils. Its sides face the cardinal points (Jomard). It was entered by Melton, an Englishman, in 1660, who found a single chamber in it. Near the first of these two pyramids is a large pyramid of sun-dried bricks: in its present state it is a rectangle of one hundred paces on one side, and seventy-five on the other; the height is about 137·76 feet. The bricks are loam, bound together with chopped straw. Asychis, the successor of Mycerinus (Herod. ii. 136), built a large brick pyramid, but as there are still other remains of such pyramids, and perhaps there were once many more, we cannot conclude that this is the pyramid of Asychis.

There is a pyramid at Sakkârah, which in dimensions is next to the great pyramid of Jizeh: each side of the base is on an average about six hundred and fifty-six feet; and the height is three hundred and thirty-nine feet*. This is the pyramid which contains hieroglyphics in relief round the door-way of a small chamber, excavated in the rock under the pyramids. This chamber was examined by Minutoli; and there is a copy of the hieroglyphics in Mr. Burton's Excerpta. Those who wish to prove that the pyramids are anterior to the other monuments of Egypt, and to the use of hieroglyphics, must either consider this pyramid to be much younger than the rest, or must contend that the hieroglyphics in this pyramid are the work of a later age—a fact by no means impossible; but there are no means of estimating the relative value of this hypothesis, and of that which makes them contemporary with the building of the pyramid, except that the latter hypothesis may fairly throw the burden of proof on the former, and maintain its title till the other shows that it has a better.

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* Descript. de l'Egypte Antiquités, vol. v. See also Pococke's Measurements.

Some writers have attempted to show that the inclination of the entrances into the pyramids of Cheops and Chephren being the same, and about 26°, has a reference to some astronomical use. This inclination certainly does not indicate the elevation of the pole-star, or the latitude of the place, as some writers conjecture, for the true latitude of these pyramids is about 30° N. Others argue that they might have been used to mark the diurnal motion of some star which is near the pole, and thus to obtain a measure of sidereal time. But this will not apply to those pyramids which are not exactly placed with their sides to the four points of the compass, which is the case with one at least of the Sakkârah pyramids, and most of those in Nubia; nor indeed does the hypothesis seem to deserve much consideration, unless it can be proved that these were the original types of pyramids, and the rest are deviations from them. A much simpler and quite as accurate a mode of determining the precise passage of a star might have been accomplished with much less trouble. We must also not forget that the entrance-holes were closed, as well as the entrances of the interior passages, and it appears clear that the intention was to shut up the pyramids, and not to use them.

It was observed a few pages back, that the pyramid at Jizeh (marked No. 4 in our plan) has a flat top, consisting of a single stone, which seems as if it might have been the pedestal of a statue; and Dr. Richardson was led to think that a colossal statue would be an appropriate finish to one of these huge pedestals, from having observed an Arab on the top of the second pyramid, which he had climbed for a small sum of money. That such a finish was sometimes given to pyramids, we learn from Herodotus (ii. 149):—"That Lake Moeris was made by the hand of man is clear from this fact: there are in the lake, and about the middle of it, two pyramids, each rising three hundred feet above the water; the part that is under the water is just the same height. On the top of each is a colossus of stone, seated in a chair." Of all the wonderful works of Egypt, this must have been the most singular and the most striking—a colossus, probably sixty feet high, seated on a pedestal three hundred feet in height, and the whole rising above the level surface of the lake. Though we know of no traces of these pyramids, we find a difficulty in questioning the veracity of the father of history as to what he *saw*. We only believe that these pyramids were built on an island in the lake. The only commentary which we can make on this passage of Herodotus is from P. Lucas (ii. 48):—"I observed with my glass the island in the middle of the lake: it appeared to be a good league in circumference. Some of the people assured me that they had been on it, and had seen the remains of several buildings which they took to be temples, and also they had observed some tombs, of which two appeared larger and higher than the rest. They added, that they had noticed several figures of men, women, and animals, on very large stones. I could learn nothing of the famous pyramid which had been built there according to Herodotus." But Lucas did not always tell the truth. The story of these two pyramids is not capable of any good explanation: the easiest explanation would be to suppose it entirely untrue.

The great sphinx stands on the same plateau with the pyramids of Jizeh: its position will be seen in our plan. Belzoni has conjectured that the sphinx, the temple behind it, and the second pyramid, are all of equal antiquity, which is not improbable, though it should be remarked that the sphinx is not placed in a line due east, and consequently could not form part of a rectilinear approach to the pyramid, as he seems to say. This, however, is a minor difficulty; and we cannot help inclining to Belzoni's opinion, when we consider the position of the temple, with respect to the pyramid, and compare it with those in Nubia. Belzoni says this temple approaches within fifty feet of the base of the pyramid, and its exterior wall is composed of enormous blocks, some of them twenty-four feet high. He ascertained that there is a spacious pavement cut out of the rock, between the temple and the pyramid, which he believes to go all way round the latter.

The great sphinx is not mentioned by Herodotus, though it is so near the pyramids. But, numerous as his digressions are, he seldom prosecutes them further than is necessary for the main matter of his epic history. We merely make this remark because some have doubted about the antiquity of the sphinx, on the ground of this negative evidence. Herodotus was at Thebes; and what has he described there? Nothing at all, except the wooden colossi of the chief priests. But his silence will not destroy the existence of the Theban temples. The sphinx is nearly east of the second pyramid, about 1,960 feet from it, and on a lower level than that of the pyramids. Pliny says, "the sphinx is in front of the pyramids—an object almost more wonderful than they are, and a kind of rural deity to the neighbouring people. They think King Amasis was buried in it, and that it was conveyed to the spot: but it is made of the natural rock, and polished smooth*. The circuit of the monster's head round the forehead is one hundred and two feet, the whole length of the figure one hundred and forty-three, the height from the belly to the top of the head sixty-two feet." The French did not uncover the sphinx completely, and therefore they do not give all its dimensions: from the chin to the top of the head is said to be about twenty-eight feet, and the body is above one hundred feet long.

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* "Lubrica:" he alludes to the paint on it, xxxvi. 12.

This figure had for ages been covered with sand, the head and neck alone rising above it, as represented in our print. Abdallatif describes it as having the body buried in the sand. Captain Caviglia, after great labour, succeeded in laying it bare to the foundation; for the distance of one hundred feet in front*. The paws, which are about fifty feet long, were found to be constructed of masonry, but the rest of the body is cut out of the rock. It seems to have been originally painted all over with yellow, as M. Grobert says, which probably was only the under coating, as we may observe to be the case on some statues. A red layer is then placed upon the yellow; and this has been the colour of the face and neck of the sphinx. In the time of Abdallatif these colours were more brilliant, and, together with the expression of the face, and the accuracy of its proportions, greatly excited his admiration†. Most modern travellers also speak in high terms of the calm and smiling countenance of the sphinx, particularly when they have had time to contemplate it at leisure, and under various aspects. Parts of the beard of the sphinx were found in this excavation, broken off from the chin, a fragment of which is now in the Museum. This sphinx was therefore an androsphinx, nor is there any difficulty on this head, because of an inscription in Greek verse, on the southern paw, in which the sphinx is clearly treated as a female. The Greeks gave it those qualities which they attributed to their own sphinx. On the stone pavement in front of the sphinx, and between its paws, there was found a block of granite fourteen feet high, seven broad and two thick. The face of this block is adorned with sculptures in bas-relief, representing two sphinxes on pedestals, with priests making offer-

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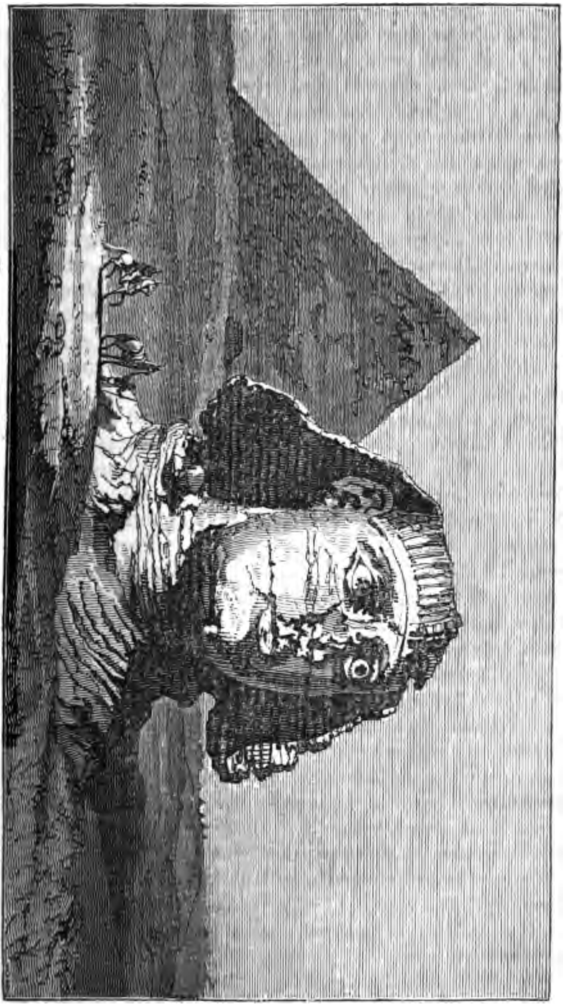
* See Quarterly Review, vol xix. p. 410.

† See Abdallatif's Description of the Sphinx; De Sacy's Translation, p. 179.



The Great Sphinx. From the French Work, vol. v. pl. 12.

ings, and below a long hieroglyphic inscription well executed. The Theban sphinx, of which we have given a drawing (vol. i. p. 216), has a sculptured figure attached to its breast. If the sphinx should be of equal antiquity with the second pyramid, the hieroglyphics on this block will prove that they were in use at that epoch, though it may be argued that all between the sphinx's paws is of a later date, like the Greek inscription to which we have alluded.

Two other tablets, of calcareous stone, had been placed respectively at right angles to the granite tablet, which granite tablet faced the east: the position of the two calcareous tablets is inferred from one of them having been found in its place. The fragments of the other tablet are now in the British Museum (No. 15). A small lion, in a reclining posture, looking towards the sphinx, was found in front of this small construction: this lion is now in the Museum, (No. 50), and is described in vol. i. p. 223 of this work. Other fragments of lions, and the forepart of a sphinx, were also found, all which, with the tablets, walls, and platform of this little construction, were painted red. In front of this little building there was a granite altar. There appears also to have been a brick wall enclosing the sphinx, cased on the inside with stone. On the side of the left paw of the sphinx are several indistinct Greek inscriptions, but on the second digit were cut, in pretty deep characters, an inscription already alluded to, in Greek hexameter and pentameter verses*. Two tablets, with Greek inscriptions, were also found " on two elevated platforms, on the outside of the altar, and directly in front of the animal, accessible by two flights of steps." One of the inscriptions is of the date of the Emperor Nero, and the other of the date of Marcus Aurelius: they are both in the British Museum. They have been given in the Quarterly Review (vol. xix.), and are added in the appendix to this volume, from a careful examination of the originals. The larger inscription is not given in the Quarterly Review quite so complete as it might have been, but, unfortunately, the latter part of it is now nearly altogether erased from the stone, which is of a brittle quality, and breaks off in small pieces.

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* They are given in the Quarterly Review, with Dr. Young's corrections and translation. Many of the letters are no doubt nearly obliterated, and there may also be errors in the inscription itself; but with both these allowances, it seems likely that the inscription has been ill copied.

The remains of a temple, in front of the second and third pyramid, have been already noticed in the description of the pyramids of Jizeh. But in Nubia we actually find pyramids with propyla attached to one side of them, as if forming the real entrance to the building. This view of one of the largest of the Nubian pyramids is taken from the north-west.

The Nubian pyramids are, perhaps, about eighty in number, or even more, but generally of small dimensions. Those of which we are now speaking, stand at a place called Assur near the Nile* (about 17° N. lat.), and may be distributed into three groups, one near the Nile, and two more remote: of the two remoter groups the northern contains the largest pyramids. They are built of sandstone: the edges are partly ornamented, and the propyla are adorned with sculptures in the Egyptian fashion. Of the interior we are not able to give any information, as we believe they have not yet been entered; nor can we say whether these pyramids contain sarcophagi or mummies. Heeren† indeed remarks that he knows no instance of mummies being found south of Philæ and the cataracts; but Gau has given a drawing

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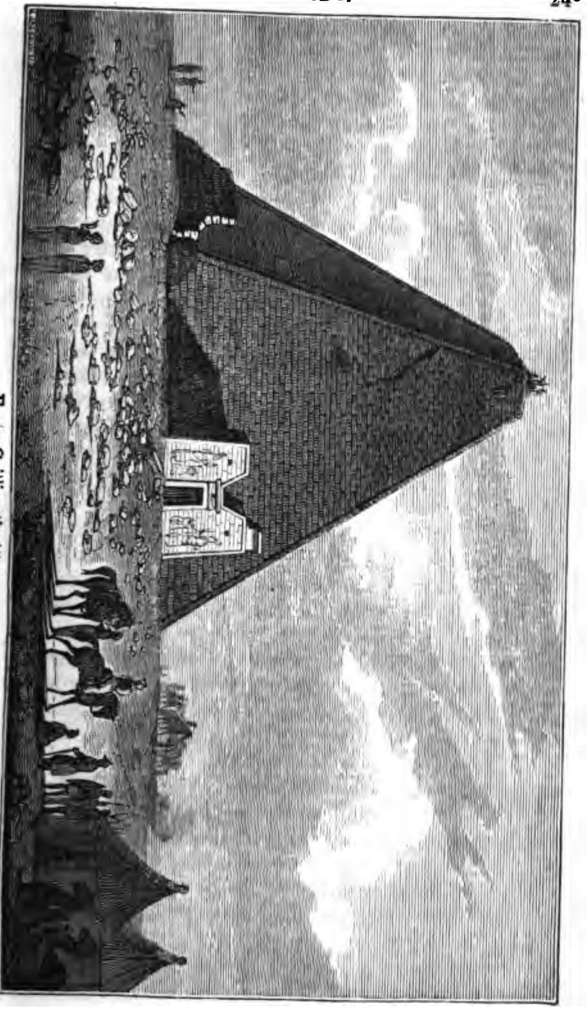
See Cailliaud's Plates, xxxi. to xlv.

† Meroe, p. 405.



From Cailliaud's Plates.

(Nubien, pl. v.) of the cover of a stone coffin found in the tombs near Debod, which is the exact copy of one of the upper part of a common mummy-case.

M. Cailliaud has given topographical plans of these groups of pyramids at Assur, and also views of those which are most remarkable. That of which we have given a print from M. Cailliaud's plates is among the largest of these Nubian pyramids, and yet but inconsiderable when compared with those of Jizeh: the view is from the north-west. The length of each side of the base is about sixty-two feet: from either extremity of the front base line to the point where the portico touches the pyramid on each side, is twenty-three feet; this will leave about sixteen feet for the width of the portico. The angle of inclination of the side of the pyramid is 72°*. Like most, perhaps all the Nubian, pyramids, its sides are not turned to the four cardinal points of the compass. As, however, the number of these buildings is very considerable, and as there is great variety in their position, some may be placed with their sides like the pyramids of Jizeh; but it evidently has not formed part of the whole design to attend to this principle. The portico has sculptures in front, and an arched roof constructed with a keystone, the whole curve consisting of five stones. Mr. Waddington† mentions an arched portico similarly constructed at Jebel Barkal (lat. 18°·25), near the Nile, where there are also pyramids with propyla in front of them. If we admit the Nubian pyramids to be older than those of Egypt, we must admit that the scientific construction of an arch was known when the antient temples of Egypt were built. These Nubian arches are certainly as old as the pyramids to which they belong, and appear in fact to be a part of the original design. There are also pyramids at a place called Nourri (lat. 18°·33), a few miles north of

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* Probably French degrees.

† p. 171, &c.

Jebel Barkal, and on the opposite side (the east) of the river. Mr. Waddington calls this place El Bellal, and describes the largest pyramid as containing within it another pyramid of a different date, stone, and architecture. The inner pyramid is seen*, from part of the outer one having fallen off. The base line of this pyramid is one hundred and fifty-nine feet (48·5 mètres), according to Cailliaud, or one hundred and fifty-two feet, according to Waddington, who states the height at one hundred and three feet seven inches. We are not aware that these Nubian pyramids were known to Europeans till within the present century, nor are they mentioned by any Greek or Roman writer. It would be difficult to name any epoch to which to refer them, posterior to the Persian conquest of Egypt, B. C. 525, though it may be urged that we know so little of the history of the country south of the cataracts, that any conjecture as to what did or did not take place there is of no value. The sculptures on the porticoes of these pyramids are certainly not in the best style of Egyptian art, which is almost the only evidence of their belonging to a comparatively recent date in Egyptian history. In the first volume (p. 207) we referred to the proofs furnished by Belzoni of the existence of antient Egyptian arches at Thebes; and the reader may see other instances with additional proofs mentioned by Mr. Wilkinson†. The same gentleman mentions a stone arch in a tomb at Sakkârah, which he assigns to the second Psammetichus (the Psammis of Herodotus), about B. C. 600; which accordingly he considers to be the oldest stone arch yet discovered. Admitting, however, this date, the great Cloaca at Rome may put in its claim for equal antiquity.

But the pyramidal form of building is not peculiar to Egypt, or even to the old world. The great teocalli or pyramid of Cholula, in Mexico, stands in the extensive plain of Puebla, on the road between the towns of Puebla and Cholula. This plain, which is at an elevation of more than 7,000 feet above the sea, is without trees. The west side of the pyramid is in the best state of preservation; and when the monument is viewed from this direction, the snow-covered volcano of Orizaba is seen in the distance, rising to the height of 17,360 feet. This pyramid consists of four receding platforms of equal elevation, and it appears to have its sides exactly opposite the four cardinal points; but, in the present state of the pyramid, it would appear impracticable to determine this fact with perfect certainty. The perpendicular height of the pyramid, according to Humboldt, is only one hundred and seventy-seven feet; but some authorities, probably not so accurate, have made the height more. Each side of the base is 1,440 feet, or more than a quarter of a mile, and the area of the base is consequently more than forty-seven acres and a half, or more than three times the base of the great pyramid of Jizeh. On the highest platform of the pyramid of Cholula there was an altar dedicated to Quetzalcoatl, the god of the air: the area of this platform is about 5,020 square yards, or about $\frac{1}{46}$ of the area of the base. This fact shows that the upper platforms must recede considerably from the margin of those on which they stand. The pyramid being at present covered with vegetation, it is difficult to determine how it is constructed. The early Spanish historians of Mexico state that the whole is made of brick. Humboldt had the opportunity of examining this matter at a point near the summit, and also in another place where a recent road, made from Mexico to Puebla, had been cut through the lowest platform on the north side of the pyramid, and had thus detached a portion, about one-eighth, from the main mass. Here he found that the pyramid was composed of alternate layers of clay and of brick, either sun-baked, or only very slightly burnt. But he gives no good reason for our forming any opinion as to the central parts of the pyramid, which may be either built in the same way, or merely made of clay. In cutting the road above mentioned, a square stone chamber, supported by posts of cypress, was found in the interior of the pyramid: this chamber contained two dead bodies, two basalt idols, and a great number of vessels varnished and painted. It is said that there was no apparent entrance to this chamber.

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* See Waddington's View; and Cailliaud's Plate, xlvii.

† Topography of Thebes, &c. p. 81, 126.

There are other pyramids in Mexico. Those of Teotihuacan, eight leagues north-east of the city of Mexico, consist of two large pyramids, surrounded by several hundred small ones, placed in lines running due north and south, and east and west. The largest of the small pyramids are not above thirty feet high: according to the tradition of the natives they were the tombs of chiefs. The two large pyramids consist of four platforms, each of which was formed into a number of small steps, the edges of which were distinguishable when Humboldt visited them. The kernel of these pyramids is clay mixed with small stones: the casing is a thick covering of a porous amygdaloid. On the summit of these two pyramids, which were respectively those of the sun and the moon, there were two colossal stone statues, covered with plates of gold. The gold was carried off by the soldiers of Cortez; and a zealous Franciscan priest completed the work by breaking the statues in pieces.

To the east of the pyramids of Teotihuacan, in a thick forest, a small pyramid was discovered which had escaped the notice of the early Spaniards. It is fifty-nine feet high, and each side of the base is eighty-two feet: it appears to have had six or seven platforms. This pyramid is entirely built of well hewn stones, of a remarkable size: three flights of steps led to the top, and the casing of the platforms is adorned with hieroglyphic sculptures, and numerous small niches arranged with much symmetry*.

The Indian pyramidal buildings have their sides turned to the four cardinal points. Some temples of this form near Benares† have a subterraneous communication with the Ganges, which forms a curious point of resemblance between the Hindoo building and the story which we have quoted from Herodotus about the Nile communicating with the chamber of Cheops. There are two curious pyramidal or pointed Hindoo temples, with porticoes, at a place called Agouree, which may be seen in Daniel's Views, pl. xix. pt. I.

The temple of Belus at Babylon, according to the description of Herodotus, was a pyramidal building; the base was a square of six hundred Greek feet in the side: it consisted of eight receding platforms, in or on the highest of which was a temple. Xenophon‡, in his account of the retreat of the ten thousand, speaks of a stone pyramid which he saw near the Tigris, on its east bank, about forty-five miles south of the present Mosul. The natives had fled to the top for refuge, from which we may perhaps infer that it was formed in steps not filled up. Its height was computed by the Greek general to be about two hundred feet, and the side of its base one hundred: but these dimensions cannot be true, for the pyramid would have been almost too steep to ascend.

The mound of earth, among nations less advanced in the mechanical arts, appears to occupy the place of the pyramids. In many parts of Europe and in North America, those earliest and most enduring of all monuments still exist, and many of them may perhaps outlive the massy stone work of the pyramids. Such mounds as these are the tombs of the Scythian* kings on the banks of the Borysthenes, the great mound of Halyattes near Sardis, and Silbury hill in Wiltshire. Silbury hill is in the form of a truncated cone: the circumference of the base is two thousand and twenty-seven feet, the diameter at the top one hundred and twenty, the sloping height three hundred and sixteen, and the perpendicular height one hundred and seventy: it covers an area of five acres and thirty-four perches. It is chiefly made of chalk, upon which a thin soil has formed, now covered with a short grass. From comparing this with the pyramid of Mycerinus, it appears that the height is about the same, but the circuit of this pyramid at its base is only one thousand three hundred and twenty feet, and its area only twelve thousand one hundred square yards, or not quite two acres and a half. The great mound of Halyattes, as measured by Herodotus (i. 93), was at that date three thousand eight hundred Greek feet in perimeter, which exceeds the perimeter of the great pyramid by more than eight hundred feet. Its foundation and outer margin was of stone: the rest was of earth. We do not know if this mound has been carefully measured in recent times. In its present state it would perhaps be difficult to determine its exact perimeter, though the height probably might be ascertained pretty nearly.

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* Humboldt, Vue des Cordillères, tom. i. 8vo.

† Bohlen, ii. 207.

‡ Anabasis, iii. 4, 9.

The practice of raising a great mound over a dead body seems to be almost universal, and it would be tedious to enumerate all the examples. The Persians raised a mound at Acanthus (Herod. vii. 117), over Artachaies, the superintendent of the canal at

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* Herod. iv. 71.

Athos, which, though not of large dimensions, still continues as a memorial of a Persian usage, and of the fidelity of the Greek historian.

The tomb of Porsena (Plin. xxxvi. 13), according to Varro, was a kind of pyramidal building, which Pliny's description has made unintelligible, if indeed it ever existed. The Romans adopted, probably from Egypt, the fashion of building pyramids. That of C. Sestius at Rome is in a complete state of preservation. There is also one at Autun in France, which we conjecture to be a Roman work, but it is much decayed.

The meaning of the word pyramid, and the primary notion embodied in the enormous Egyptian masses, have been the subject of much learned discussion. According to some, the pyramidal and obelisk form originally refer to the worship of fire; and hence we can understand Pliny when he says, that an obelisk is a representation of a ray of the sun. He adds*, "that its Egyptian name proves this." From this passage a learned critic, quoted by Jablonsky, argues that the Egyptian name for obelisk was also pyramid, which we think not an unfair conclusion. The word pyramid is interpreted, according to the Coptic, to mean the "sun's rays†." The sacred use of the pyramids is, perhaps, best indicated by the sarcophagus found in them, and their position amidst the extensive fields of mummy-pits and tombs. But this explanation, so well in accordance with the construction of the pyramids, and all antient historical tradition, has not generally been considered sufficient. We have no other to offer: it is a subject on which each reader may exerelse his imagination. Why the Egyptians built some pyramids so large, others being very small, is the same kind of question as if one were to ask why St. Paul's was made so large: those who can answer the latter question can answer the other. The fact of the four sides being turned to the four cardinal points may be similarly explained. One certain conclusion seems to follow, from the form of the pyramids, that the people who built them must have already had practical knowledge of geometrical figures both plane and solid.

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* xxxvi. 8.

† Jablonsky, Prolegomena. See Bohlen, Das Alte Indien, ii. 208. We do not know whether it has been yet remarked that the *sacred* name of the chief priest of Thebes is like that of a pyramid. *Piromis* is the word: see Herod. ii. 143.

It has generally been considered that *pyramid* (πυραμὶς) must be an Egyptian word, and this may be true; but let us see what consequences follow from the supposition. The Greeks have native names for the circle, the cone, the square, the cube, &c.; but, according to this notion of pyramis being an Egyptian word, their name for the geometrical figure of the pyramid came from Egypt; and as there is no other Greek name for this figure, they did not know the pyramid till they learned the form and the name from the Egyptians: for we assume that if they had known the pyramid before knowing the pyramids, they would have a native name for it, which would certainly have come down to us among their mathematical terms in place of a foreign word, which would have been unnecessary. Let us suppose, on the other hand, that pyramis is a genuine Greek word, and then we find that *all* the Greek names of the geometrical figures are native terms. The form of the word pyramis (πυρ-αμις) is one of the very common forms of the Greek language, which language contains a very large class of words, in *ămos* and *ămis* (αμος, αμις): *ămos* or *ămis* is one of those terminations of which we now only deduce the meaning by a comparison of a great number of similar forms. Whether the radical part of *pyr-amis* be the word pyr, *fire* (πῦρ), (the pyramid being so called from its general resemblance to a flame in its pointed form), we do not know. This derivation is often ridiculed, and it may be ridiculous; but it is not so ridiculous as the Coptic derivation, which goes precisely on the same notion of a ray, or of fire, and, besides this, explains the two initial letters by the Coptic article *pi*, which has been pressed into the service of Egyptian etymology till one is wearied of the absurdity of so many names of places, persons, and things having the masculine definite article prefixed. That pyramis is a perfectly pure Greek word in *form* is undeniable; that the part *ămis* is a pure Greek suffix is also undeniable; and if we add to this that Herodotus does not tell us that it is an Egyptian word, as he does in some other cases, but uses it like a pure Greek word; and that his word for obelisk is not an Egyptian but a Greek word, signifying a spit or skewer *,—we shall have no difficulty in admitting that pyramis is much more likely to be a Greek than an Egyptian word. In no instance does Herodotus call any Egyptian edifice by an Egyptian word or name, except it may be Labyrinthus; but even this is, we believe, a Greek word, and is analogous to other similar forms.

The ages of the pyramids of Egypt, as fixed by Herodotus, correspond to the reigns of Cheops, Chephren, Mycerinus, and Asychis, who reigned, according to him, in the order here enumerated. After Asychis came Anysis, who was expelled by Sabakos the Ethiopian, whose epoch is generally fixed not earlier than B. C. 800. Herodotus does not give the years of the reigns of Asychis and Mycerinus, but he allows one hundred and six years to the reigns of Chephren and Cheops—a sum quite sufficient for all four. According to him, then, the great pyramid of Jizeh was built about nine hundred years B. C., or about four hundred and fifty years before Herodotus visited Egypt. Admitting them to be so comparatively modern, we may also admit that the history of them must have been well known in the time of Herodotus, which accords very sufficiently with the minute information which he gives about Cheops and Mycerinus. This evidence is not very satisfactory to any critic, and still less so to those who have a preconceived opinion of the high antiquity of the pyramids; but unsatisfactory as the evidence is, it is all that we have, except the authority of Manethon's Catalogue, which attributes the great pyramid to Suphis (the Cheops of Herodotus), the second king of the fourth dynasty, and the building of the third to queen Nitocris of the sixth dynasty. If Herodotus has given us the kings from Sesostris downwards in their right order, we have a reasonable probability that the age of the pyramids, as assigned by him, is not very far wrong: if he was deceived by the priests, or if he mistook what was told him through an interpreter, his series of kings prior to Psammetichus is of no value, and the antiquity of the pyramids, so far as his authority goes, must remain unsettled.

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* See vol. i. p. 355.

CHAPTER VII.

PAPYRUS.

A NATION that has possessed writing materials abundant, durable, and adapted to all the purposes of common life, must have made considerable progress in the useful arts.

The common writing material of the Egyptians was papyrus, as we learn from antient authorities, and as we now know still more satisfactorily from the number of specimens found on mummies. The different European collections contain a great variety of these papyri, most of which are written in the antient language of the country; but some are written in Greek, and possess a still higher degree of interest than those in the Egyptian language, being the oldest written records of any language that we can understand.

We cannot show decisively the highest antiquity of this commodity from the mummies on which it is found, because (except in a few instances, which will presently be mentioned,) there is no satisfactory way of determining the age of the papyri that are found on mummies. If we could understand all the marks or writing found on a piece of papyrus, we might hope to deduce its age, though even then we might fail in obtaining sufficient evidence as to this fact. The long period during which this mode of interment was in use renders the determination of the precise age of any one mummy-specimen a very difficult problem. There is, however, among the Vatican papyri a specimen written in the enchorial or common

Egyptian character, on which M. Champollion finds a date, expressing the twelfth year of Psammetichus, B. C. 640. Several papyrus-rolls of the age of Darius, the son of Hystaspes, are said to be in the collections of Paris and Turin. But we know from a remarkable passage of Herodotus (v. 58) that Egyptian papyrus was an article of commerce long before his time, and possibly before the two dates just mentioned. "The Ionians call the bibli by the name of skins (*διφθεραι*), because formerly, for want of bibli, they used goat and sheep-skins; and even at the present day many of the barbarians write (or paint*) on such skins." This word byblos† (*βύβλος*) is an Egyptian name, used to indicate that water-plant which we sometimes call *papyrus*—a name that we also give to the writing material made from it. "The byblus (Herod. ii. 93;) annually springs up; after it is plucked from the marshes, the top is cut off and converted to a different use from the other parts. The bottom part that is left, to the length of about one foot and a half, they sell as an eatable commodity." The use to which the first-mentioned part is turned is noticed incidentally in several passages such as these:—"The priests wear shoes made of the byblus; the sails of the Egyptian boats are made of byblus; the priests read to me out of a byblus-roll the names of three hundred and thirty kings." These passages are noticed because they show that the byblos was extensively used before Herodotus visited Egypt, and also formed, with their manufactured linen, an important article of the export trade. Thus we have distinct evidence of its being an article of export before the time of Herodotus, that is, before the middle of the fifth century B.C. With the possession of Egypt by the Greeks the use of papyrus increased, and was, for many centuries, a most important branch of commerce; and though various kinds of writing materials were used besides it, we may infer from a number of passages in antient authors, that no one kind was in such great demand. The immense quantity of papyrus found in Herculaneum proves the extensive use of this writing material in Italy. At the commencement of the sixth century, Theodoric the Great abolished the high imposts on imported papyrus, on which occasion Cassiodorus * wrote a letter, entitled "Joanni Canonicario Thusciæ Senator," in which the senator congratulates the world on the cessation of a tax so injurious to commerce, and so unfavourable to the progress of knowledge. The learned senator's description of the papyrus-plant is expressed with all the bad taste which marked his period; but it is still a vivid and animated picture †. "The forest of the Nile springs up without branches and without leaves; it is the harvest of the waters, the beautiful bushy hair of the marshes, softer than a twig, harder than grass; it has a kind of full emptiness, and empty fulness; a spunge-like wood, with a bibulous softness. Like an apple, its strong part is in its covering; its softness in the middle. It is tall and light, but self-supporting;—the most beauteous offspring of an ugly inundation. It is a noble invention of ingenious Memphis,—that the beautiful texture made in a single spot should cover all the writing-desks in the

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* Maps were painted on skins by the North American Indians.

† There was a town in the Delta, called Byblus (Ctesias. Persica.), supposed by some to be the modern Babel. It would appear that the common Greek name for book (*βιβλίον*) is a word of Egyptian origin.

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* Book xi. Ep. 38.

† This passage is referred to by Matthias Koops, Esq., author of an "Historical Account of the Substances which have been used to describe Events," &c. London, 1801. This writer was a practical paper-maker.

world." Papyrus continued to be used, at least in Italy, till about the eleventh century, when it was superseded by parchment and by cotton paper, introduced from Asia.

Rosellini observes, that he found only one instance of the gathering of the papyrus represented, and this was in the tomb which he calls that of Sciunmes, at Kum-el-Ahmar. (See M. C. xxxvi., fig. 3.) Two men are carrying the stalks of this plant, one in his arms, and the other over his shoulders, by means of a stick. The heads of the plant are turned downwards; and the stalks, which are a considerable length, are cut off straight, and not pulled up by the root. The cincture or vest, which we usually see in Egyptian figures fastened round the waist, and descending upon the thighs, is here tucked up, from which circumstance Rosellini infers that it is intended to show they have just come out of the water where the papyrus grew.

The papyrus-plant (cyperus papyrus) * grows in swamps, to the height of ten feet and considerably more. Its stalk is of a triangular form; the root is crooked, and near it there are some short leaves, but the stalk itself is bare. On the top it has a bushy head, of long thin fibres, according to the drawing of Prosper Alpinus †. This plant is now rather scarce in Egypt; but is described as still existing about the lake Menzaleh, near Damietta. The pa-

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* "Cyperus papyrus of Linnæus; but it has been separated by Thouars, and is now better known as Cyperus Antiquorum. It grows well in one of the houses at Kew gardens, and at some other places. Lodiges has not succeeded in keeping it alive." We are indebted to W. J. Broderip, Esq., for this note, and for some remarks on the fox, hare, crocodile, ibis, goose, owl, crane, and the snakes, in the following chapter.

† Koops. Frontispiece. Theophrastus (iv. 9) describes it as having a hairy top, which cannot be turned to any use. There is a drawing of the papyrus-plant in the work of M. Fortia D'Urban, Essai sur l'Origine de l'Ecriture.

pyrus is probably intended to be represented in some of the plates of Rosellini, in one of which we see (No. 14, M. C.) a bird's nest at the top of the flowers. The papyrus (Pliny, xiii. 11, 12,) was prepared in the following manner:—The parts that were used for making paper are the fine pellicles which surround the plant, the best of which are nearest to the marrow or centre. The turbid Nile water was used to bind the different pieces together, as it has a kind of glutinous property. First of all, a layer of papyrus was laid flat on a board, of as great a length as could be procured after the two ends were cut straight; a cross layer was then put over it. The whole mass, after being pressed, was dried in the sun. The several sheets (plagulæ) were fastened (glued) together, the best being taken first, and then the inferior sheets. Twenty generally went to form a roll (scapus). There is a great difference in the breadth of the scapi; the best are about thirteen fingers' breadth.—Mr. W. Bankes brought from the Island of Elephantine a papyrus MS., containing the greatest part of the last book of the Iliad; the material is ten English fingers broad, and eight feet long.

Instead of the Nile water being used to fasten the fibrous parts together, it seems quite as likely that there is a glutinous liquor in the pellicles themselves, which may require a little diluting with water. The general mode of preparation was probably pretty much what Pliny describes; but it is also clear, from the same author, that there was a great variety in the modes of preparing the paper after the parts were fastened together, as to the cleaning, glazing, &c. There is a Sicilian water-plant, not absolutely the same as the papyrus, which is found in the Anapus, from which some samples of paper have been manufactured in recent times, according to Pliny's recipe. Papyri vary much more in length than in breadth. The breadth, as we might suppose, would be determined by the usual length of the strips taken from the plant: the length might be carried to almost any extent by fastening one sheet to another. Perhaps the largest yet found is one mentioned by M. Jomard, which was thirty feet. Though papyri found on mummies are often in a good state of preservation, it is necessary to be very careful in handling them. Each piece of papyrus is formed into a roll, which has been made by rolling it from left to right—one proof among others that the Egyptians read them from right to left. The roll, owing to its being pressed under the swathings of the mummy, is flattened. It is dry and brittle to the touch, and small pieces continually fall off, if any attempt is made to unroll it in this state. In fact, the papyrus has been dried to the highest possible degree by having been subjected for so long a time to the almost unvarying high temperature of the tombs. Though it is necessary to take some pains in unrolling a piece of Egyptian papyrus, it is not an almost hopeless task, as in the case of the burnt rolls of Herculaneum. M. Jomard* gives the following directions for the process:—The papyrus must be moistened by covering it with several wet linen cloths, and when this is done sufficiently, a fine gauze should be spread out on a frame, the gauze being made a little longer than the supposed length of the roll. A little fine gum, well diluted, must then be placed on the gauze and on the under margin of the papyrus; a gentle pressure will make them adhere. The papyrus is then unrolled by small breadths at a time; and each part is glued to the gauze. A linen cloth is the best thing for gently pressing the gauze on the papyrus: this should be done in the shade, and the work should not be left for any length of time. Dust and everything that might dry the gauze should be kept away.

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* Descript. de l'Egypte, vol. iii. p. 119.

Mr. Hamilton* observes that part of a papyrus-roll which he immersed in hot water was not at all injured by this operation either as to the material or the characters on it. Indeed he adds, "that part of the roll on which I made this experiment appears now much more perfect than the rest, and the ink is considerably blacker."

The durability of this writing material is one of its best qualities. It can be rolled and unrolled, after the lapse of so many centuries, without any detriment to it; but this complete preservation of many specimens is no doubt to be attributed to their being kept from the air under the mummy-coverings, or in earthen vessels. Sometimes the two ends of a roll have been found sealed with cloth and resin. The colour of the papyrus, of which several framed specimens may be seen in the Museum, is a brownish yellow; the characters and the drawings are still perfectly legible, and show not only the excellence of the material, but also the skill of the ink-maker. The surface is rougher than that of ordinary writing-paper; but we have seen a small strip or fragment, in the possession of Dr. Hogg, of a fineness and delicacy which can hardly be surpassed. The ink of the writing on this fragment is a good clear black, and the hand-writing is as beautiful and exact as any specimen of modern penmanship.

We can only conjecture the materials of which the Egyptian ink was made. It might be partly the same as their black paints. Pliny † says that ink was made of soot in various ways, by mixing it with burnt pitch and resins; and for this purpose, he says,

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* Some account of the Egyptian Papyrus by W. Hamilton, Archæologia, xvi.

† xxxv. 6.

"furnaces have been built, which do not allow the smoke to escape. The best that is made in this way is from pine wood." Lees of wine, boiled and strained, also made a kind of ink. All inks made of soot are inclined to change to a yellowish tint in the course of time, which is not unlike the colour of the writing on some specimens of papyri, though on others the marks are still very black.

The strokes on the papyrus are pretty nearly such as we should make with a common pen, as we may see by comparing a specimen of Egyptian writing in the Museum (one of Mr. Grey's papyri) with the copy of the enchorial text in the same frame, made by Dr. Young. They used probably a reed or goose-quill, and of the latter there could not be any scarcity in a country where the goose was so common an article of food. In some of the paintings on the tombs, the pen or reed is clearly distinguished in the hand of the writer.

M. Jomard* is of opinion that the writing on the papyrus was done with a fine reed, such as now is called in the east *qalam*, a word obviously the same as the Greek and Roman *calamus*, which itself, possibly, is a word borrowed from Egypt. It appears from Martial* (quoted by M. Jomard), that Egyptian reeds were used for writing at Rome. From the form of the terminating strokes of the characters and the figures drawn on the papyri, it is conjectured that the pen was cut very obliquely, and was adapted to make either a thick or a fine stroke. The figures and drawings on the papyri appear also to have been made with a pen or reed of the same kind, if we may judge from the form of the terminating strokes. The papyri are written upon columns or pages, that is, the lines run in the direction of the length of the papyrus for six or eight inches, as it may be, and when the scribe came to the bottom of the papyrus, he begun a new page to the left of the first, leaving between the first and second page a small blank strip, which of course would lie in the direction of the breadth of the papyrus. In some cases the pages are divided by perpendicular lines evidently drawn with a rule. We know from Herodotus that the Egyptians wrote from right to left like the Hebrews and Arabs, and this fact is readily proved by the inspection of a papyrus. The commencement of a papyrus sometimes contains a drawing or certain characters larger than the rest, corresponding to capital letters in our writing; these characters always stand at the right extremity of the line. The form of the strokes of many of the characters shows clearly that in making them, the hand passed from right to left. The last line of a page, when it is not a complete line, terminates in such a way as to show that it commenced at the right side. When a phrase or period is not completed at the bottom of a page, the continuation of it is found at the top of the next page or column to the left; and it is certain, that in such cases, this is the continuation of the incomplete phrase or period, because the two parts (that at the bottom of one page, and that at the top of the next) occur in other parts of the papyrus in one continuous series.

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* Description de l'Egypte, vol. iii. 116. See Plin. Hist Nat. xvi. 36.

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* xiv 38.

The same characters are often recognized at the commencement of the different pages, and these initials are very often written in red ink. Sometimes the first lines of the pages are exactly the same.

The writing on papyrus is not limited to that which is generally termed the enchorial or common language, which may be an alphabetic language, but it consists also of the hieroglyphic or pictorial language; by the term pictorial, we mean representations of particular objects, without asserting any thing as to the signification of these pictorial signs.

Those papyri which have hieroglyphical or pictorial writing upon them, are generally, perhaps nearly always, divided by ruled lines into narrow vertical columns of an inch or less in breadth, in which the symbols are arranged one under another. The reading of them, if it can be called by that name, begins at the top of the right-hand column and goes down to the bottom: the eye then passes to the top of the second column from the right, and so on. Occasionally a column is imperfect, where we may suppose the paragraph to be terminated which has a reference to the pictures above the columns; for it appears to be the fact, that the pages of enchorial writing and the columns of pictorial writing are in some degree determined as to their space and length by the position of the figures above them, which, we presume, they are intended to illustrate. Whenever a column of pictorial symbols is thus left imperfect, it is the lower part that is blank. It seems pretty clear that whatever be the nature of the symbols used respectively in the enchorial character, which is written from right to left, and in the pictorial, which is written from right to left, and from the top of a column to the bottom, and sometimes either from right to left or left to right—the two modes of representation are essentially different.

Besides the two species of writing, many of the papyri contain drawings, all, or nearly all, of which appear to relate to the death of some person, his judgment, and his reception in the world below. The drawing, though evidently executed with great rapidity, is by no means devoid of spirit or truth, and the leading characteristics of each animal are seized with an accuracy that could only be the result of much practice. The figures are also often painted red, green, white, blue, and yellow.

A framed papyrus (No. 16) in the Egyptian room of the British Museum will serve as a specimen of the mode of writing in the hieratic or enchorial character, whichever name may be more appropriate in this case. This papyrus is about nine feet three inches long, and about thirteen inches broad: it contains fourteen pages or columns, of unequal width, one of which is occupied by drawings, arranged in three horizontal compartments one above the other. The central part of two other columns also contains a series of figures, occupying a place in the page just as a wood-cut might in the middle of the page of a book. One continuous picture runs from right to left at the top of the papyrus over all the columns, except the twelfth, reckoning from the right: the twelfth is wholly occupied with writing. A horizontal line of writing extends also over parts of the picture already described as running above the columns. The subject of the Egyptian text, as indicated by this long line of figures, is funereal, and refers to the ceremony of interment.

A slight inspection of this papyrus will show that the writing is to be read from right to left. The lines which end a paragraph or column, and do not exactly fill the last line of it, all terminate short of the left extremity of the line. Column 11 is completely filled, and contains no imperfect line: the termination of this column appears in the top line of column 12, occupying a small part of the line at the right end of it. Several portions of the MS. are here and there written in red ink; the rest is of the usual brownish black colour. Many of these groups of characters in red ink are evidently the same, and are repeated several times. Some, particularly of the short groups, are repeated very often, and the same group is sometimes repeated in different parts of various columns or pages.

Rosellini (M. C. xxxv. 4) has given a copy of an Egyptian painting, from a tomb at Kum-el-Ahmar, which represents two figures writing. One man is seated with the left knee on the ground, and the back part of the thigh resting on the calf of the leg and the heel; the right knee is raised and used as a table to write on. The man has a pen behind his ear, and is writing with another on the tablet which rests on his right knee. In front of him there is a kind of box or desk, on which an inkstand rests, and three rows, one above another, of books or papyri-rolls. The other man, who is seated in a similar posture, has a rectangular chest or table before him, on which also there are represented three rows of papyri-rolls one above the other. This man is evidently forming some papyrus into a roll; and to show more clearly what he is about, there is in front of him another roll which is wrapped round a stick or umbilicus, one end of which is distinctly marked. The papyrus is tied on the stick at the two extremities, for the purpose, as Rosellini conjectures, of keeping it in that position till it had assumed the proper form when the stick could be withdrawn. Some of these rolls, as we know, were also secured by a seal. Two hieroglyphics are drawn just above the papyrus which is wrapped round the stick: the upper hieroglyphic is the conventional form which represents an eye; the lower is simply a representation of a roll of papyrus *. The attitude of the men who are writing is a very common one in Egyptian painting and sculpture, and we frequently see workmen seated at their occupations in this posture. The

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* The interpretation of the hieroglyphics is here as simple as that of the figures themselves: the eye is symbolical, and represents the attention and care of the workman—a fact much better shown in the attitude of the man; the book speaks for itself, and is purely pictorial, being what it shows itself to be, and nothing else. The following is Rosellini's interpretation (Part ii. tom. i. p. 332):—"The action of the man is represented by the two characters above him, in which we read the letter (*r*), which generally expresses in the hieroglyphics, as in Coptic, the idea of *doing*, *ra*, *re*, *eire*, *iri*, according to the dialects; and the figurative character which represents a papyrus rolled and tied represents a volume, a book, *βίβλος* (*pi jom*). Hence we have the attributive *refjom*, he who makes the volume." Such an interpretation is absurd enough. No doubt it means "he who makes a volume;" but it is as intelligible to us when we know the symbolical meaning of the eye as to an Egyptian, and nothing is here gained by having recourse to the Coptic. In Rosellini (M. C. xii.) the eye occurs as the only hieroglyphic over the figure of a goose (No. 1): here, according to the author, the goose is called *er* or *ro;* but how this can be the name of a goose it is difficult to comprehend. In another instance (M. C. x. No. 3), we have a sparrow represented with the same symbol of an eye over it, and after the eye (to the left) the semicircle, which is the mark of the female sex: here the author converts it into *iri.t*, where we have again the word to *make*. In these instances, at least, the explanations of the author are inconsistent and absurd.

The eye often occurs among the symbols placed over workmen inspecting others, and over workmen engaged in different kinds of occupations.

(In the extract from Rosellini common characters have been used to express the Coptic words, for want of Coptic letters.)

picture which we have been describing contains also a standing figure with a writing instrument behind his ear, but the rest of the interpretation is not clear.

There is a considerable number of Greek and Latin MSS. on papyrus in the different great libraries of Europe, but these are now objects of comparatively less interest, since we have been so fortunate as to find others of much higher antiquity in Egypt itself. One of the most curious of these is a Greek papyrus from Thebes, which belonged to M. Anastasy, Swedish consul at Alexandria, of which Dr. Young has given a translation. It relates to the sale of some land near Thebes, made by two brothers and two sisters; and commences with reciting that the sale took place in the reign of Cleopatra and Ptolemy her son, surnamed Alexander: the date of the document is fixed by Dr. Young at 106 B. C.

It then goes on thus:—"Pamonthes, about forty-five years of age, of middle stature, dark complexion, handsome person, bald, round-faced and straight-nosed; and Snachomneus, about twenty years of age, and middle size, also round-faced and straight-nosed; and Semmouthis Persinei, about twenty-two years of age, and middle size, yellow complexion, round-faced, flat-nosed, and of quiet demeanour; and Tathlut Persinei, about thirty, of middle size, yellow complexion, round-faced, straight-nosed, together with their principal or master, Pamonthes, who joined in the conveyance—all four being the children of Petepsais, one of the leather-cutters of the Memnoneia—sold out of the piece of ground belonging to them on the southern side of the Memnoneia, this being vacant ground, eight thousand cubits, one-fourth of the whole. This land is bounded on the south by the royal street; on the north and east by the possessions of Pamonthes and Bokonsiemis his brother, and the public wall of the city; on the west, by the house of Tages, the son of Chalome. A canal leading from the river runs through the middle of the property: such are the boundaries on all sides. The purchaser was Nechutes the less, the son of Asos, about forty years of age, of a yellow complexion, happy countenance, long face, straight nose, with a scar in the middle of his forehead, who gave six hundred and one pieces of copper coin. The salesmen and warranties for the legality of the sale were the sellers. Nechutes the purchaser received.

(Signed) Apollonius, with an abbreviation not quite certain.

The only Greek copy which we have seen of this curious document is in Dr. Young's book[*], whose translation we have followed with one or two verbal alterations. Though there is a little doubt about the precise meaning of several parts, the tenour of the whole is perfectly intelligible; and certainly it is a rare discovery to find such documents as these in good preservation, after an interval of about 1,930 years. It should be observed that the price was not paid in silver, but in copper coin. Nechutes got the land cheap; if the numerals are rightly interpreted (which we doubt); for no piece of ground of any description could be called dear, where the purchaser received more than thirteen square cubits for any copper coin that we can imagine—always excepting the Swedish plates of stamped copper[†]. This sale and purchase were registered, as we learn from the translation of the registration which is subjoined to the deed of sale. It appears that there was a government duty paid on the proceeds of the sale; which (according to another papyrus MS.) was as much as 5 per cent.

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[*] Discoveries in Hierog. Literature, &c., 1823. It is also printed in the Museum Criticum, ii. p. 638, from the Berlin Transactions.

[†] $\overline{\mathrm{XA}}$, in the original, is translated 601 by Dr. Young; but as in the same document $\overline{\Pi\mathrm{O}}$ stands for ποταμος and $\overline{\Delta\mathrm{I}}$ for διωρυγος, it is probable that $\overline{\mathrm{XA}}$ may represent χιλια. The gen. νομισματος is no obstacle here.

This papyrus to which we allude is of still higher antiquity than that of M. Anastasy, being dated probably about B. C. 135, and possesses a still greater interest. This is the Greek papyrus of Mr. Grey, now in the British Museum, which likewise is a deed of conveyance, but only a copy : the original, according to custom, being written in the Egyptian language and the enchorial characters. Dr. Young, when he first saw Mr. Grey's Greek papyrus, was engaged in studying an Egyptian enchorial MS., by the aid of which M. Champollion had discovered the enchorial name of Cleopatra. This MS. is at Paris, and Dr. Young had procured a copy of some parts of it. To his great surprise he discovered on comparing them, that Mr. Grey's Greek papyrus was actually a copy and a translation of the Paris MS., written in the Egyptian enchorial characters. The identity of the Egyptian original and the Greek copy is proved by there being the same registries in Greek, on the copy or antigraph, as it is called, belonging to Mr. Grey, and on the Paris enchorial manuscript. It is easy to see what an important step was thus made towards determining the Egyptian enchorial characters; for, says Dr. Young, "I proceeded to ascertain, that there were the same number of names, intervening between the Greek and the Egyptian signatures, that I had identified, and that the same number followed the last of them; and the whole number of witnesses appeared to be sixteen in each." It is a singular circumstance that among the papyri brought to Berlin by General von Minutoli*, there is one in enchorial characters, exactly the same as the Paris MS. Thus it appears that there are three extant papyri, containing the *same* deed—two, which are the originals, in the Egyptian, and a copy in the Greek language. The two originals also contain the same registry on them in Greek. But it is still more singular that there are other papyri extant, referring to a person called Orus; the very name of the individual whose sons, in Mr. Grey's antigraph, are agreeing about the transfer of one brother's share of an estate to another brother. This estate consisted of a portion of the mummy-caves near the Memnonium; and it appears that the sons of Orus belonged to the caste of priests, and derived some profit from these tombs. A very great number of papyri, which have been brought to Europe by Salt, Casati, Drovetti and others, refer to lands or possessions about Thebes, and were purchased of Arabs living on the spot. Some of them, it is conjectured, from the identity of their contents, must have been preserved in the same vessel.

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* Schoell. Geschichte der Griech. Litt. ii. p. 315.

The following is the translation of Mr. Grey's papyrus: the translation differs a little from that given by Dr. Young *.

Translation of Mr. Grey's Antigraph.

Copy of an Egyptian contract or bargain made concerning some dead bodies in Thynabunun in the 36th year, the 20th of the month Athur, after the common preamble, declares the libation-pourer of . . . . . Isis? the Great, Onnophris, the son of Orus and Senpoeris, about 40 years of age . . . . black-coloured, hollow-eyed, bald, to Orus the son of Orus and Senpoeris—you have satisfied me with the price for the half of the third of the collection of the bodies in Thynabunun, in Libya, of the Perithebe (neighbourhood of Thebes), in the Memnoneia, also of the half of the third of the Liturgies and of the rest, of which (bodies) the names are Muthes the son of Spotout, with his children and all?; Chapochrates, the son of Nechthmonthes, with his children and all?; and Arsiesis, the son of Nechthmonthes; likewise Petemestus, the son of Nechthmonthes; likewise Arsiesis, the son of Zminis; likewise Osororeris, the son of Orus; likewise Spotus, the son of Chapochonsis; likewise Zoglyphus: Of which there belongs to Asos, the son of Orus and Senpoeris, your younger brother, one of the same libation-pourers, the half of the aforesaid third part of the Liturgies and profits and every thing else, Has sold to him (Orus) in the 36th year, in the month Athur, in the reign of the immortal king, to make up the third part, And of the half of the produce and of the rest of the dead bodies in Thynabunun, Pateutemis, with his children and all; and half of the profits belonging to me in the possessions of Petechonsis, the milk-bearer, and in a place Asces called Phrekage, with the dead bodies in it, of which there belongs to the same Asos a half, I have sold to him, They are thine, And I have the price of them from thee, and I make no demand on thee concerning them from this day, And if any person come upon thee (disturb thee) in this property, I will remove him, and if I do not remove him, I will remove him by force. Written by Orus, the son of Phabis, who belongs to the sacred rites of Amonrasonther and the Synnæan deities, as sole writer.

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* See Appendix.

Witnesses, Erieus the son of Phanrees, Peteartres the son of Pateutemis, Petearpochrates the son of Orus, Snachomneus the son of Peteuris, Snachomes the son of Psenchonsis, Totoes the son of Phibis, Portis the son of Apollonius, Zminis the son of Petemestoutos, Peteutemis the son of Arsiesis, Amonorytius the son of Pacemis, Orus the son of Chimnaraus, Armenis the son of Zthenaetis, Maesis the son of Mirsis, Antimachus the son of Antigenes, Petophois the son of Phibis, Panas the son of Petosiris. Witnesses 16.

(*Copy of the Registry.*) In the year 36, Choiach 9th, at the table in Diospolis, at which Lysimachus presides, the 20th part the usual tax . . . . according to the of Asclepiades and Zminis, farmers of the revenue, at which (table) Ptolemæus signed the copy. Orus, the son of Orus, libation-pourer, who belongs to the collections, on account of the dead bodies in Thynabunun in the Memnoneia of Libya, of the part about Thebes, the tombs, for which they perform services, which he bought from Onnophris, the son of Orus, for pieces of brass.

Lysimachus subscribed.

If the reader finds the translation obscure, which no doubt he will, he must understand that any other translation might misrepresent the meaning: the translation expresses the obscurity of the Greek, and the document is open to every man's interpretation.

The enchorial text contains eighteen lines of signatures on the left side, some lines longer than others.

Dr. Hogg, a gentleman who has lately visited Egypt, purchased there a papyrus-book, or part of a book, which, by the kindness of Dr. Hogg, the writer has had the opportunity of examining.

This MS., which is a fragment much damaged, is in the form of a book, such as would be made by taking several quires of letter-paper and sewing them together. The length of the sheet, measured from the top to the bottom, is about nine inches and a half, or perhaps nearer ten, if proper allowance is made for the edges being worn and damaged. The width of the sheet, or the breadth of two pages, with the blank space between, and the margins on each side, is about fourteen inches and a half, or perhaps if the edges were not rubbed, it would be fifteen inches. The whole has been sewed together just as we should now make a copy-book out of quires of letter-paper size. The papyrus is made, as Pliny describes it, by layers or strips of papyrus placed side by side lengthways, and crossed at right angles by other slips similarly disposed as to one another. Consequently in writing on the two opposite sides of a page, the writing is in one case across the longitudinal fibres of the material, and in the other case it runs in the same direction. Occasionally the one set of strips are not placed carefully in juxtaposition, so that spaces are left where there is the thickness of one layer only instead of two, and the letters in these interstices are of course on opposite sides of the same single strip of papyrus. This manuscript is a copy in Greek of part of the Psalms of David, written in a style between the uncial and the cursive MS. hand, with the accents occasionally, but not regularly marked. The letters often stand quite apart, instead of being connected by the cursive strokes with those which precede or follow. In one instance, where a leaf in the copy-book is badly made, owing to the strips being laid imperfectly across one another, the copyist has skipped this leaf entirely, and left both sides blank, as appears from verse 12, Psalm xxvii. which is partly on one page and partly on another, with the blank leaf intervening. The MS. ends abruptly in the second verse of Psalm xxxiv., and as there is space enough for five lines between the break and the bottom of the page, it is probable that this is the end of the MS. Such terminations are not at all uncommon in MSS. The beginning of this MS. is also imperfect and much damaged. We observed a bit of leather in it, which had been used apparently in holding it together. Dr. Hogg possesses a papyrus which has been rolled up as if to make a pocket-book, and was enclosed in a leather case.

This papyrus is not only remarkable for being in an unusual form for a Greek papyrus, but it has also the merit of being, so far as the writer has examined it, a good text. With the permission of the owner, the seventeenth Psalm, according to the papyrus, is given in the Appendix, with the variations of Grabe*.

The Egyptian Museum † at Leiden is mainly formed of the collection made by the Swedish vice-consul at Alexandria, M. D'Anastasy, which was purchased for the University of Leiden by the Dutch Government. This collection is particularly rich in Egyptian manuscripts, of which it contains one hundred and forty-seven (numéros ‡) on papyrus, twenty-four MSS. on linen cloth, one on leather, &c. Among the papyri are twenty in Greek, and three bilingual MSS., besides contracts in the demotic character, on which the enrolment is entered in Greek, and Greek inscriptions on monuments of other kinds.

M. Reuvens has described and commented upon two papyri (Première Lettre à M. Letronne) of the collection of Anastasy, which are curious. He considers them both to be magic rituals. The following is a brief summary of his account of them.

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* Since this was written, the MS. has been purchased by the British Museum.

† C. J. C. Reuvens' Lettres à M. Letronne sur les Papyrus Bilingues et Grecs, et sur quelques autres monumens Gréco-Egyptiens du Musée d'Antiquités de l'Université de Leide. Leide, 1830. M. Reuvens died in 1835, soon after visiting London, where he had come to attend the sale of some Egyptian articles collected by Mr. Salt. M. Reuvens, while in London, copied several Greek papyri which the Museum purchased at Mr. Salt's sale.

‡ So called by M. Reuvens.

The first of these (No. 65), which came from Thebes, is ten feet three inches long, and nearly ten inches broad: it was rolled up, and is in a state of complete preservation. It is generally written in hieratic characters, and, besides some Greek, contains interlineary transcriptions of demotic words in Greek letters. The inside is divided into fifteen written columns, with a half column between the twelfth and the thirteenth; the opposite or outside contains twenty columns. The columns on the outside are closely written and short, apparently for the purpose of enabling a person to hold the roll in his hand without covering the writing. The text, as observed above, is generally hieratic, but there is a number of isolated words in demotic characters, of which a part (consisting of about three hundred and thirty words) is accompanied with a transcription in Greek characters*. The text also contains many demotic letters intermixed with hieratic; and the isolated demotic words sometimes, though not so often, contain some hieratic letters. Even the Greek transcribed words are not exempt from this mixture. Some isolated words in hieratic characters are also accompanied with transcriptions in Greek characters written above them. The transcriptions are conjectured to have been inserted after the rest was completed, being in a different hand and in a different ink. Some, however, are intercalated in the body of the text: but, besides this, there are two passages of Greek intercalated in the Egyptian text; and on the outside of the MS. there are many Greek words, inserted in different parts of the hieratic or demotic text. These two Greek passages show very clearly the character of the whole papyrus: one of the passages occurs in column three; the other in column ten. The second is here translated:—

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* These isolated words are indicated by a particular mark; and the Greek characters corresponding to them are written above.

"I invoke thee, who livest in empty space, wind or terrible, invisible, all-powerful god of gods, maker of destruction, and maker of desolation, thou who hatest a flourishing family*, since thou hast been expelled from Egypt, and out of foreign countries. Thou hast been named the all-destroyer and the invincible. I invoke thee, Typhon Seth; I perform thy magical rites, because I invoke thee by thy genuine name, by virtue of which thou canst not refuse to hear (here follow fourteen epithets, not Greek, each distinguished by a stroke above the word). Come to me entire and walk, and throw down such a man † or such a woman by cold and heat. He has wronged me, and has poured out the blood of the phyon in his house, or she has, &c. For this reason I perform profane ceremonies."

The other papyrus (No. 75), which is written on one side, almost entirely in Greek, is about half the length of the other, but about the same breadth: it is not known where this papyrus was found. It was folded flat, and the outside, which contained only an hieratic text, was much damaged. The right end, which contains the termination of the Greek text, is not entire, and the same seems to be the case with the left end. Both this MS. and the other have been considerably rubbed, which is manifestly owing to their having being often handled. This rubbing has given them a deep colour on the outside, just halfway between the top and bottom, both of which are quite uninjured. M. Reuvens considers that the outside of No. 75, which contains the hieratic writing, was formerly the inside, and that it has been turned inside out in order to convert it to a new purpose.

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* *ο μισῶν*, probably for *ω μισων*; see Reuvens' remark.

† The words are—*Ολον ηκε μοι και βαδισον και καταβαλε τον Δ η την Δ ριγει και πυρειω*—from which it is clear that the prayer is a general formula, to be adapted to circumstances. The translation here given is nearly the same as that of Reuvens. The last words—*δια τουτο ταυτα ποιω κοινα*—are the most doubtful; and the translation in the text, which is that of Reuvens, is perhaps wrong. It has been suggested that these words may signify, "Wherefore I make these *public*, give them utterance?" which is certainly a possible meaning.

Though the inside of this papyrus has suffered somewhat from being rolled, the writing is fresher than that on the outside, and, with the exception of some breaks, very legible. After six columns or pages of Greek, each consisting of thirty-eight or thirty-nine lines (which of course appear in the inverted order when the papyrus is unrolled from right to left), there are still, at the left end, two columns of Egyptian hieratic writing, consisting respectively of twenty-nine and nineteen lines. These two columns have suffered more than the Greek, probably, as M. Reuvens conjectures, from the smallness of the roll in this part, and from the circumstance of this part having been necessarily held in the left hand, if a man wanted to read the Greek text, for which purpose it was necessary to unroll all the Greek part of the papyrus. This hieratic writing on the inside differs materially from the hieratic text on the outside, which is conjectured to have been the original, or rather that which was written before the blank side was used for another purpose. The two columns, however, have a striking resemblance to the hieratic text of No. 65, but they contain no transcriptions. The most singular part of the Greek text of No. 75 is an invocation to mystic love, which concludes thus:—"Come to me, O Lord of heaven, who illuminest all the earth. Serve me both with males and females, small and great, and compel them always to do all that is written by me." M. Reuvens conjectures that the MS. may belong to the fourth century of the Christian æra, and not to a more recent date: but it appears that there are no means of coming to any conclusion on this point. The writing, he observes, retains the more formal character, and the square shape which brings it nearer to the age of the Ptolemies than that of the Byzantine writers, under whom the Greek character degenerated into a long slender form, as we observe in MSS. of the eighth, ninth, and tenth centuries, and even in the Greek inscriptions of Nubia, which are of a much earlier date *.

There are several stone tablets in the Museum with writing on them. In some cases, the upper part of the stone contains, as usual, a series of figures, below which spaces for writing are formed by horizontal ruled lines. On these lines hieroglyphics are written, or perhaps we should rather say painted, in black ink. Hieratic and enchorial characters are also put on tablets just in the same way. The writing is simply painted or fixed on the flat stone (which is of the soft white kind so much used for Egyptian tablets), as a man would write on a piece of paper with a pen. There has been no indentation or outline previously formed to receive the paint or ink. Some of these stone tablets have preserved the characters in the most complete manner.

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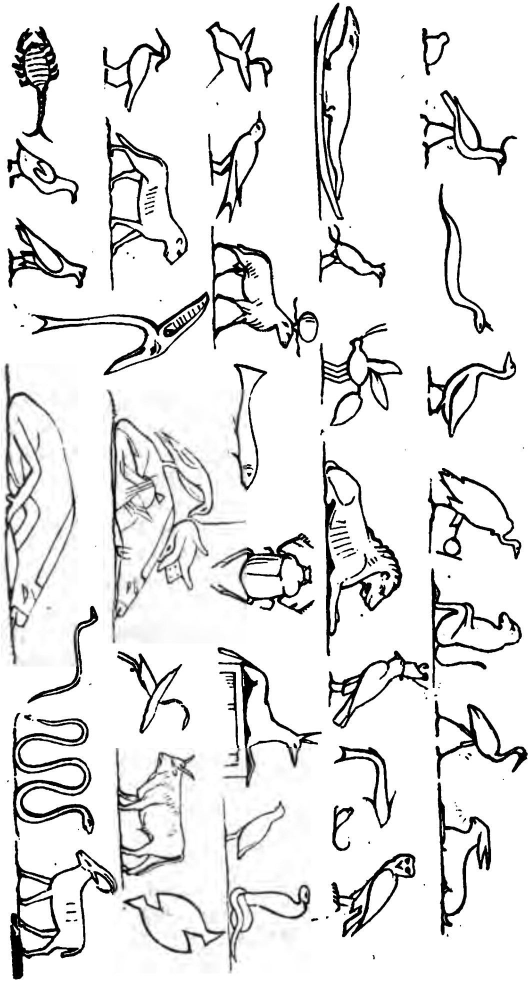
* See Gau's Nubien.

CHAPTER VIII.

ON THE SACRED ANIMALS OF EGYPT.

WHEN we observe on the sculptured monuments of Egypt the forms of so many animals, delineated with the most scrupulous fidelity to nature, we cannot refrain from inquiring into the connexion between these forms and those of the animals that now exist in that country. And further, when we find so many specimens of embalmed animals in the catacombs of Abousir and elsewhere, and add to this curious fact whatever antient writers have transmitted to us on the religious system of Egypt, we have before us a spacious field of research, sufficient to occupy the most zealous inquirer for many years: for not only is the number of facts to be ascertained, examined, and weighed, almost an endless labour; but it is a still more difficult task to collect and compare the variety of scattered notices transmitted to us by antient writers, and the innumerable conjectures of modern critics. After reading much that has been written on the probable origin of beast-worship in Egypt, and the resemblance between it and many prominent points of Hindu superstition, we are not ashamed to confess that we are still as far as ever from having a satisfactory conception either of the origin of the practice or of the symbolical meaning of the greatest part of the Egyptian sculptured forms. Our object in this chapter will be limited to a comparison of the forms of some animals, as represented on the Egyptian



monuments in the Museum, with the forms of animals now existing; and in doing this we shall occasionally make such remarks on the religious system of the Egyptians as have been suggested by this inquiry.

The print which is here given, contains, we believe, all, or nearly all, the varieties of the animal form, except perhaps the fishes, which we have been able to find on the great sarcophagus, the two obelisks, and some other monuments of the Museum. They have been drawn with great care. We shall discuss the quadrupeds first.

The Bull.—In line 4 we see a bull, an animal easily recognized, and still found in Egypt, where travellers describe many of them as beautiful enough to form models for a modern Apis, if he should be wanted. That this animal was indigenous in Egypt (by which we mean that we cannot name any historical period when he was not there) needs no proof. The fresco paintings, already described, offer two varieties, which are curious; one, the bull with the hump, which is like the Hindu animal; and the other, the long-horned one; but neither of them is like this animal, which bears a much greater resemblance to our common short-horned breed.

The bull was one of the sacred animals of Egypt. If we could have a sight of what Diodorus saw at Thebes, or heard of when he was in Egypt, we might be able to form a correct list of them. "There* is around the chamber which contained the body of Osymandyas a number of other chambers, in which there are beautiful paintings, representing all the sacred animals of Egypt." We are not quite sure whether modern writers understand by "sacred animals" merely those which are embalmed, or those which are used in hieroglyphics, or both. We may reasonably suppose that all embalmed animals, of

* i. 49.

which a pretty long list can be made, were sacred*. We also know that most of the animals used in the hieroglyphics are sacred, but certainly not all of them. The camel is perhaps never found on the monuments; but the horse † occurs once or twice, with the giraffe, the ostrich, and others, which were not considered as sacred. Also, some sacred animals, which are found embalmed, rarely if ever occur on the monuments. We have never discovered the cat among the sculptures, though it was a common domestic animal in Egypt, and often embalmed: still it would be hazardous to assert that this animal is never found among the innumerable subjects that decorate the walls of an Egyptian temple and tomb. It is, as we have remarked, almost in vain that we look for any satisfactory solution of the origin of this respect paid to animals, or any good reason for the great diversity in the practice of beast-worship that prevailed in Egypt. The bull and cow, one of the forms under which Osiris and Isis respectively were venerated, received universal adoration in Egypt; but it was not so with the goat, the ram, the crocodile, and some other animals. Each nome seems to have had its local inferior deities, in addition to the superior one. The great visible deity of Memphis was the bull Apis; of Heliopolis, the bull Mnevis; to which noble company we may add a third bull, mentioned by some later writers, Onouphis, of Hermonthis, in the Thebais. At Mendes, in the Delta, the goat received special honour; the crocodile, near Lake Moeris; and in the city of Lions (Leontopolis) a lion was worshipped as late as the time of Diodorus. This historian details at some length the various notions which the

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* But still all sacred animals were not embalmed. Dead cows were thrown into the Nile. (Herod. ii. 41.)

† In the historical groups at Thebes the horse, of course, occurs frequently.

Egyptians of his day entertained about the origin of this singular system, but he acknowledges the difficulty of admitting any of the explanations as satisfactory; and any one who reads them will be of the same opinion.

The antiquity of bull-worship in Egypt would seem to be shown by the fact of the Israelites, soon after leaving that country, falling into the gross idolatry of making a golden calf—probably the image of what they had seen in the land of bondage. And again, at a later period, we read of Jeroboam setting up a calf at Bethel, which was a manifest indication of a tendency to cherish the superstition of Egypt. The bull, which was the representation of Apis, was required to have certain peculiar marks*: his colour was to be quite black, except that on his forehead a square white mark was necessary: on his back was the figure of an eagle; the hairs of his tail were to be split or divided (at the extremities, we suppose); and on his tongue the sacred beetle was required. When the youthful bull was raised to the high dignity of deity, he was put into a gilded chamber, on board a vessel in the Nile, and thus conveyed to his residence near the temple of Hephæstus at Memphis. In front of his apartments at Memphis he had an enclosed area, into which he was sometimes turned out to walk and amuse the spectators. The sacred bull of India presents many points of resemblance†. "Sivas, as the principle of fertility, has his sacred bullocks, which are to be chosen according to certain marks. In front of most of his temples there is a colossal stone figure of a bull; and at certain times a bullock, with a chaplet on his head, accompanied by a number of men, is led in a kind of procession, intended to represent the course of the sun. It is considered a fortunate omen when he will eat grass from the hand of a person who approaches him; which is exactly the same thing that Pliny relates of the Apis."

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* Herod. iii. 28.

† Bohlen, i. 255; and Plin. viii. 46.

It is exceedingly difficult to form any accurate conception of the notions entertained about these sacred animals by the Egyptians. That they changed with times and circumstances it needs no pains to show. That, at any period we choose to name, there was the greatest inconsistency in their ideas about the sacred animals, is also easily shown. No ox or calf could be slaughtered till the priests had ascertained that it had none of the signs of Apis upon it. A single black hair was sufficient to render its slaughter unlawful. But it was altogether forbidden to kill the cow, the emblem of Isis. In like manner in India, in the city of Benares, the holy animals walk about unmolested, sometimes obstructing the pathway in the narrow streets; and no more than a gentle slap can safely be used to make them stir out of the way: any greater violence would perhaps cost a person his life. As there appears to be some mistake or want of accuracy in most writers who speak of the notions which the Hindus have about the cow and bull, we shall take the account of a writer* who is well acquainted with the subject. "Of the animal creation, none appears to be held in such estimation as the cow, though it is a mistake to believe worship is offered to it. But while it is true no sacrifices or offerings are made to this useful and domesticated brute, it is frequently made the object of confirming the most solemn oaths. I have seen it brought into an Indian court of justice, and Brahmins sworn by placing their hands on the animal, and calling it to bear witness of their veracity. The pious Hindu has a sort of filial attachment to the creature that affords him his daily food." Colonel Briggs adds, that aged cows are pensioners in the family to which they belong, and that a Hindu would as soon think of sacrificing his own child as of selling his cow for slaughter. It has also been made a condition in treaties between Hindu and European or Mohammedan powers, that the latter shall not slaughter cattle within the dominions of the Hindu.

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* Col. Briggs, Letters on India, p. 72.

"The bull, however, is an object of worship, and in most Hindu towns of eminence you will meet with tame bulls overburthened with fat, lolling their length in the streets and highways, obstructing passengers and carriages. They are fed by the people, or rather they feed themselves; for they make no scruple of shoving their heads into whole baskets full of grain and vegetables, exposed for sale in the shop-windows or in open stalls; and although driven away by the waving of handkerchiefs in their faces, or by other gentle methods, yet no Hindu of any character would think of striking one of these animals with such severity as to endanger its life, or would run the risk of maiming the sacred brute. And, ridiculous as it may sound, you may often see a Hindu driving away one of these animals from his grain-basket by hearty slaps on the face, and on the back, addressing him at the same time by the respectful title of 'Mahraj! Mahraj!' meaning your Holiness, or your Worship!"

The Egyptian doctrine, as to the cow and bull, as given by Herodotus, is briefly this: "All the inhabitants of Egypt slaughter the bulls which have none of the marks of Apis on them, and also bullocks; but it is not allowed to slaughter the cow, for the animal is sacred to Isis." The Nomadic Libyans, and the women of Cyrene also (Herod. ii. 186), abstained from cow's flesh "on account of the Egyptian Isis." This curious fact confirms the notion of Egyptian rites having spread far west, (we know they were established at Ammonium, now Siwah,) and coupled with the fact that settlers in new countries take few women with them, leads to the conclusion that the wives of the original Greek settlers of Cyrene were of native African breed.

In Rosellini (plate xx. M. C.) there is a Brahmin bull, copied from one of the Theban tombs. This animal has the short horns, the hunch on the shoulders, the ashy-grey colour of the body, with the lighter colour under the belly, which characterize the Indian animal. Those who have seen the specimen in the gardens of the Zoological Society of London will easily recognize it in this picture. This Egyptian animal is represented with a rope round his neck, from which a lotus? flower is suspended.

The slaughter of the bull is represented (Rosellini, M. C. lxxxvi.); the animal's throat is cut, and the blood is running into an earthen? vessel, while the butcher holds the horns, and the animal is bellowing with the pain. Two men are boiling a great (iron) pot, as if to prepare for the cooking. Herodotus describes (ii. 39, 40,) the mode in which the animal is dressed for sacrifice after being killed—the head is cut off, and the animal flayed: in their sacrifices to the greatest deity, they take out the guts, but leave the viscera and the fat in the body; they also cut off the legs, the extremity of the rump, the shoulders and the neck: then they fill the carcass with clean bread, honey, dried grapes, figs, frankincense, myrrh, and other fragrant things; this done, they roast it, pouring on it abundance of oil: and being prepared by fasting, they make their offering, and while it is burning they beat themselves; and when they have done beating themselves they set out the table with what they have left of the offering. The cutting off the legs and head is represented in various Egyptian pictures (Rosellini, M. C. lxxxvi. 5). Herodotus says that the head of an animal slaughtered for sacrifice was either thrown into the river, or sold to the Greeks if any happened to be there; for "no Egyptian will eat the head of any living animal." This account does not agree with the paintings in which we see the head carried on a tray, with one of the legs and the heart, being treated as if it were of equal value with the other parts. (Rosellini, M. C. lxxxviii., and a tablet in the Museum.)

Though, as we have already stated, the cow is not killed in India, still there is evidence that even there it has been slaughtered on occasions of necessity; and, independently of this, the hard labour to which the ox is subjected seems inconsistent with his sanctity. We make these remarks for the purpose of showing that the hypothesis, which supposes the worship of sacred animals in Egypt to have arisen from a notion that certain deities had once assumed these forms, is not incompatible with the treatment that they received. It is objected, that if this notion were the true foundation of beast-worship, all the sacred animals ought to have been spared; but this argument will apply equally well to the system of India and to that of antient Egypt. If every animal was really and truly sacred, it ought not to be subjected to hard labour, nor ought man to make any use of him at all. The animal, in fact, was only looked upon as the type of that form which the deity had once assumed; and, as in the case of Apis, only animals with certain marks were thought worthy of being considered as the representative of Osiris. Something like this might be the view of the priests; but as to the notions of the vulgar, they would vary as much from the ideas of the sacred caste, as their impure rites and disgusting practices would differ from the more refined and cleanly habits of the priests *.

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* Herod. ii. 37.

It is a curious fact that bull-fights were in use in Egypt. In the painted chambers of Beni Hassan there is a representation of a fight between a bull and three men; and Strabo says that in his time bulls were matched against one another at Memphis, in one of the dromi.

It is usual in the Egyptian symbolical language to represent the deities with human forms, and with the head of the animal which was their representative. Hence we see Osiris sometimes represented with the horns of a bull; and the figure of Isis, according to Herodotus, is "that of a female with the horns of a cow, which is the form given by the Greeks to their Io."

The dog is said by Herodotus (ii. 67) to have been buried in sacred tombs, whence we may perhaps conclude that it was in some respects a sacred animal. That it was a favourite with the Egyptians, and that they possessed numerous species, appears from the plates of Rosellini (M. C. xvi., xvii.); several of these dogs have collars round their necks, and two, that are certainly of the greyhound variety, are led by a man. The dog has also been found embalmed, which confirms the testimony of Herodotus (ii. 67): there is an embalmed dog's head in the British Museum, lately obtained at a sale of Mr. Salt's collection.

The ram (l. 3) is an important animal in the Egyptian mythology. The head, and particularly the horns of this specimen differ materially from the colossal head of the Museum (vol. i. p. 217), which, in the form of its nose, and the curve of its horns (embracing the ear), presents the well-known characteristics of the African sheep. Ammon, whom the Greek writers consider as their Jupiter, was represented with a ram's head: The reason of this is as follows, according to the story told to Herodotus: Hercules was desirous of seeing Zeus (Jupiter), and was very importunate to this deity, who had no inclination to show himself. Zeus, at last, killed a ram, and got into the skin, holding the animal's head before his face. In this guise he showed himself, and hence he is represented with a ram's head[*]. In Denon's plates we see a human figure, with a ram's head, exactly resembling in character the colossal one of the Museum. In Payne Knight's collection of bronzes (British Museum) there is a human figure with a ram's head (vol. i. p. 228). Herodotus goes on to say, that the people of Thebes ate goats, but abstained from sheep. Once a year, however, they killed a ram, and clothed the statue of Zeus in the skin. The animal was then embalmed. At Mendes, in the Delta, the sheep was eaten, while the goat was sacred, as being the representative of Mendes, a god whom the Greeks considered as equivalent to their Pan. Mendes was the Egyptian word for "goat," according to Herodotus; but Jablonsky, by the aid of the Coptic, sets the father of history right, for he tells us that the word for "goat," when it occurs in the Coptic version of the Scriptures, is *Bareit.* We have not sufficient respect for Coptic etymologies to induce us to consider this as decisive, especially when we look at the amount of miscalled learning which Jablonsky has written to explain the word Mendes. This deity appears to be the same as the god Mandoulis, to whom a temple at Calapsché was dedicated; and there was once a king called Mandou, or some such name. This Mendes, or Pan, represented by the goat, was one of the emblems of productiveness; and one of the most impure of all of the bestial deities of Egypt. It is not improbable that the lawgiver of the Israelities had a reference to this deity in one of the prohibitions of the law[†].

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[*] Herod. ii. 42.

[†] Levit. xviii. 23. Herod. ii. 46.

According to Egyptian ideas, Mendes was one of the eight deities, who were prior in antiquity to all others, and formed the first class.

The male lion is seen in line 2, in a *couchant* attitude, and the female in line 4, walking. Though the lion is not found within the limits of Egypt, he belongs to the Libyan desert, and therefore could not be an entire stranger to the antient Egyptians. Nor is it unlikely that at an early period the lion may have frequented the valley of the Nile, for it is an entirely inconclusive argument which some have advanced, that, because an animal is not now found in Egypt, it never existed there. In the same way we might prove that the wolf never existed in England, or that the lion never existed in Macedonia and Northern Greece *. The high antiquity of this lion-worship in Egypt is very doubtful, notwithstanding some writers assure us that this animal was a symbol of Phtha (Vulcan), the powerful element of fire. Leontopolis, or the city of Lions, where one of these animals was kept, is not mentioned by Herodotus. From the outline and attitude given to this animal, it is plain that the Egyptian sculptor must originally have had a living subject to copy from. A small stone figure of a lion was found by Captain Caviglia between the paws of the great sphinx (vol. i. p. 223).

Two of the finest specimens of Egyptian sculpture now in this country, are the granite lions brought from Jebel Barkal by Lord Prudhoe, and described at p. 163 of this work, vol. i. Since that volume was printed, these lions have been presented to the British Museum by Lord Prudhoe, and are now appropriately placed, one on each side of the entrance into the Egyptian room.

The animal in line 3, next to the beetle, is probably the fox: he is generally drawn in this attitude, and is found on some painted reliefs of the Museum, and on a stone sarcophagus already described (ii. p. 141). Whether the animal is a species of fox or dog may perhaps be doubted. Some have conjectured that he is a jackal, but it is remarked that the tail appears too large at the end for a jackal. It is exactly this head and pair of ears that we see clapped occasionally on human shoulders, as in the death-judgment (described p. 152), and it is then generally called a dog's head.

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* See Herod. vii. 126, and the Coin of ACANTHUS, Penny Cyclopædia.

The rabbit (or it is more probably a hare) is easily recognised in line 1. It is not a sacred article, and probably was only known as an article of food. It is represented in the fresco paintings (See p. 68).

The monkey has been found embalmed, in the same sitting attitude as on the sarcophagus from which this sketch is taken: we may, therefore, consider him as a sacred animal, though he is not mentioned as such, either by Herodotus or Diodorus. Twenty-one colossal monkeys, in a sitting posture, about eight feet high, and six across the shoulders, are cut in high relief above the cornice, on the front of the temple of Abousambel or Ipsambul; and it is not uncommon to find this animal on the monuments. On the great sarcophagus there is a row of monkeys seated exactly in the attitude represented in the print. If we may judge from the outline and the attitude, we cannot doubt that living models must have been the types, and that these models were found in Egypt. Indeed, the fact of monkeys having been discovered embalmed, and this being an animal particularly abundant in Africa, and on the northern coast, ought to remove all doubt as to its having once been well known in Egypt. The sculptures on the temple of Ipsambul would seem to show that this playful animal's titles to respect were of high antiquity *. Rosellini (xxi. M. C.) has given drawings of several

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* Many embalmed cynocephali are found at Thebes.

species of monkeys, two of which are cynocephali. The face and part of the rump are painted red, the body green, and the belly in one species a light yellow and white, but in the other white only. The monkey * is an object of adoration in India. He is there the personification of Hunooman, who led the army of Ram against the giant Rawun. The writer to whom we have just referred, tells a tragical story about monkey-worship in India, which is not foreign from our subject. A young officer who was going up the country to join his regiment, took up his quarters within the precincts of a Hindu temple, in one of the outer buildings appropriated to travellers. His attention was soon attracted by the gambols of the sacred monkeys, running along the walls of the temple, and every now and then making a prodigious leap upon the branches of a banian tree that grew near the building. It is usual for Hindu travellers to give some food to these animals; but the officer neglected this duty, and one of the monkeys slily carried off his bread. The officer took up his gun and shot the sacred animal on the spot. The people were horrified at this sacrilegious murder; and with execrations they expelled the traveller from the precincts of the temple, and by prayers, incense, and circumambulating the temple, they endeavoured to appease the offended deity The European officer, who had been compelled to spend the rest of the day under a tree, was seized with severe pains in his bowels shortly after supper, and died in the night. There was no Englishman on the spot to ascertain the cause of death, and it was necessary to bury the body immediately. But the suspicion of his being poisoned was very strong and almost conclusive, from the examination of his servants, and inquiries made at the village. The salt used for seasoning his meat was

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* Col. Briggs, p. 75.

purchased after the death of the monkey, and it is not unlikely that arsenic had been mixed with it. This reminds us of what Herodotus* says, "If a man intentionally kills a sacred animal, he is punished with death; but if the act be involuntary, he merely pays such a fine as the priests impose. Should the animal, however, be an Ibis or Hawk, the offender is put to death, whether the act be voluntary or not." Diodorus lays down the law in the same way, except that for "hawk," he reads "cat," and gives a particular instance of the savage superstition of the Egyptians in the case of the last-mentioned animal. "At the time when King Ptolemy had not yet obtained the title of friend of the Romans, and the populace were particularly anxious to pay all possible attention to the people of this nation who were among them, and equally afraid of giving any cause of complaint or pretext for war, it happened that a Roman killed a cat. The populace ran in crowds to his house, and neither the magistrates sent by the king to beg for the man's life, nor the general dread of the Romans, could save him from being put to death, though the act was involuntary on his part. And this I do not tell from hearsay; I was an eye-witness of it during my stay in Egypt."

The Crocodile, line 2, was a sacred animal in some districts, but not in all. We have given a print of this formidable reptile from the French work on Egypt; and we recommend those who are admirers of the old traveller of Halicarnassus to compare his description of the exterior form and habits of this animal (ii. 68, &c.), with the commentary of M. Geoffroy-Saint-Hilaire (Annales du Muséum d'Hist. Nat., tom. ix., and Description de l'Egypte, Reptiles). The result of it will certainly not tend to diminish his respect for the most careful of all antient ob-

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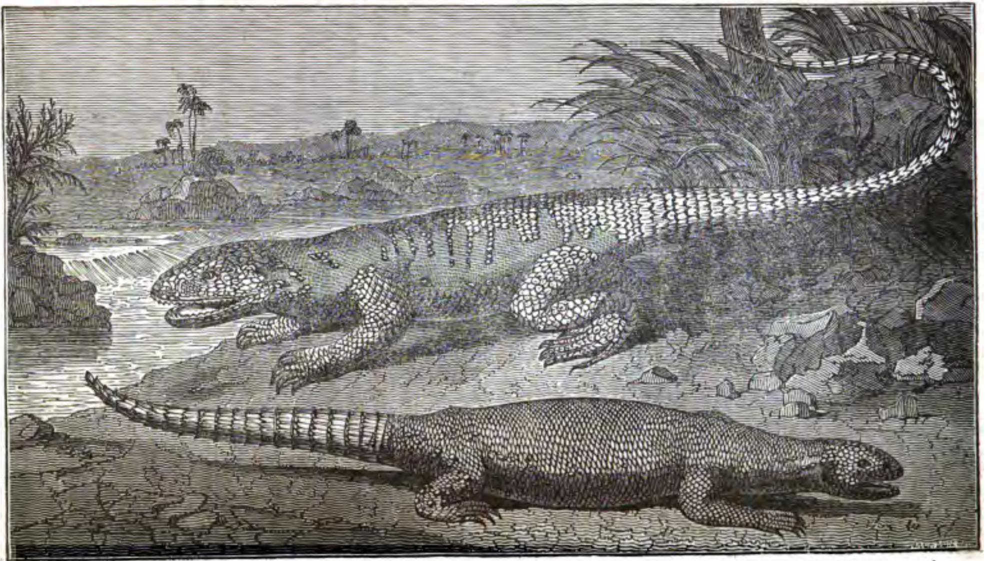
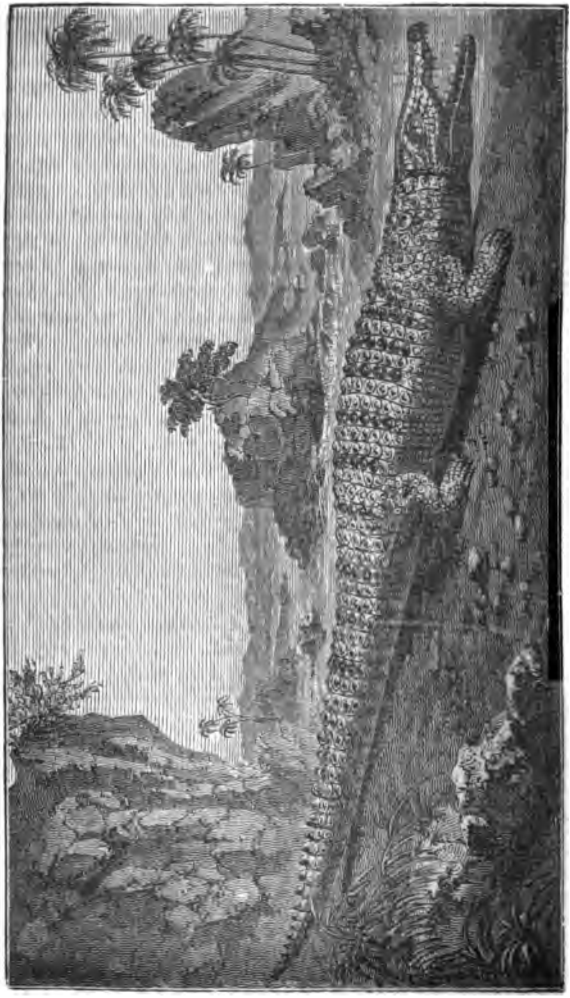
* ii. 65.



The upper animal is the Stellio of the antients; the lower is the Stellio Spinipes. From the French work.



Common Crocodile. From the French work.

servers, and the most veracious of all travellers. We believe that the crocodile is not seen now in the Delta, but he is found sometimes in great numbers in the Thebaid and the Upper Nile. Part of M. Saint-Hilaire's information was derived from the fishermen near Luxor and Carnak, about whose degree of information the Frenchman makes a curious and instructive remark. He says that the fishermen of Egypt know more about the inhabitants of the water than their brother fishermen in Europe. They inherit the profession, the son from the father, and thus the practice of their art is carefully transmitted from one to another, for there is nothing which they dislike so much as useless labour. When they speak of an animal, they remark just as the naturalists do, "such an animal is of this or that genus; such another is only a variety of it."

It should be borne in mind that there are several animals of the saurian family in Egypt[*]. The chief is the large animal so minutely described by Herodotus; and this is the reptile that we mean in common discourse, when we mention the crocodile. The other is the *monitor*, improperly called the *tupinambis*, of which there are two species, both called in Arabic by the name *waran* or *waral*, but distinguished by the titles of the land *waral* and the water *waral*. The land *waral* has sharp teeth, a round tail, and a body of the colour of flesh, with large dark patches on it. This may be the land-crocodile of Herodotus[†], which he says is very like a lizard: it is also supposed to be the skink (σκίγκος) of Dioscorides. The aquatic *waral* (Lacerta Nilotica) has his tail compressed laterally; all his body is covered with a green mixed with yellow, and darkened by little black marks. The Egyptians told M. G.-Saint-Hilaire that this *waral* is the first state of the young crocodile, which is, however, completely false. This animal swims very well, and causes great destruction among the young crocodiles, who can only save themselves by taking shelter among the larger ones of their species. He also hunts the crocodile's eggs, and devours them like the ichneumon. The reader may see in the French work on Egypt the plates of the saurians, there called tupinambis.

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[*] G.-St.-Hilaire.

[†] iv. 192.

Besides the land *waral*, there are other saurians which may possibly represent the terrestrial crocodile of Herodotus. The stellio spinipes (see the cut) is from two to three feet long, and is common in upper Egypt and the Desert: the stellio of the antients is only about a foot long.

It seems probable that Herodotus has, in some instances at least, confounded the monitor and the crocodile, considering them as one animal; and that the only one that was tamed* was the smaller one, the monitor. "Among† some of the Egyptians the crocodile is sacred, while others treat him as an enemy. The people of Thebes, and those about the Lake Moeris, have a profound respect for him. Each person has a tame pet crocodile; he puts pendants of glass and gold in his ears, bracelets about his fore feet, and gives him his regular allowance of food daily. When the crocodile dies he is embalmed and placed in the sacred tombs. The inhabitants in the neighbourhood of Elephantine kill the crocodile, having no notion at all of his sanctity." Thevenot says that he tasted crocodile's flesh in Egypt, and found it good, though rather insipid. The Barbarians, he says, eat heartily and make a great feast of it. In the time of Strabo‡, a sacred crocodile was kept in a pond near Arsinoe, formerly called the City of Crocodiles. This animal was quite tame to the priests, and was called Suchos*. He lived well, his ordinary diet being bread, meat, and wine, which he got from travellers who came to see him. "Our host," says Strabo, "who was a man of importance there, and our guide to all the sacred things, went with us to the pond, taking with him from table a small cake, some roasted meat, and a small cup of mulled wine. We found the crocodile lying on the margin. The priests straightway went up to him, and while some of them opened his mouth, another put in the cake, crammed down the flesh, and finished by pouring down the wine. The crocodile then jumped into the pond and swam over to the other side." A person who happened to be drowned in the Nile, or killed by a crocodile, was embalmed by the priests and placed in the sacred tombs.

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* Perhaps they pulled his teeth out before they domesticated him, as the boatmen of Cairo now do with the land waral.

† Herod. ii. 69.

‡ P. 811. Casaub.

But Egyptian notions as to sacred things seem not a little strange and contradictory: the crocodile was also one of the symbols of Typhon, the evil genius, and the murderer of Osiris. So ugly and detestable an animal was a very appropriate representative of the cruel and revengeful deity. It was also an Egyptian notion that Typhon assumed this form to avoid the vengeance of Horus the son of Osiris. Between Harpocrates, an Egyptian deity

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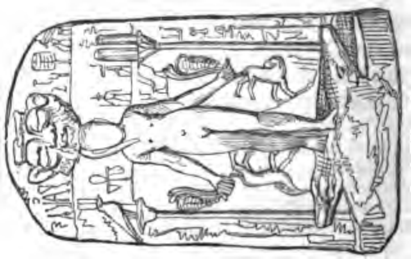
* This word Suchos probably denotes not a species, but the tame crocodile merely, which, as already observed, M. G.-St.-Hilaire conjectures to be the smaller and less fierce of the two species of crocodiles which he observed in Egypt. In the Egyptian dictionary of Kircher, Pi-souchi is given as the Coptic name for crocodile, but De Sacy affirms this word to be a fabrication by Kircher. The Coptic word for crocodile is "emsah" or "hamsa," which, with the feminine article prefixed, has made the Arabic word "timsah," which is now in common use on the banks of the Nile. Herodotus was acquainted with this name, which he gives under the form "champsa" (χαμψα).



not mentioned by Herodotus (but known to the later Greeks by this corrupted name), and Horus, there were some points of resemblance, and hence the subjects of the bronzes, from which the accompanying cuts are taken, may refer to Horus trampling on the crocodile.

Among sacred birds, the Ibis (No. 7, line 1) and the Hawk (No. 5, line 2) received universal adoration. But in addition to these, each nome had its peculiar objects of ornithological worship. Herodotus* describes two species of the Ibis. "The Ibis is very

The Green Ibis (from the French work), *Ibis Falcinellus*, probably the black ibis of Herodotus.

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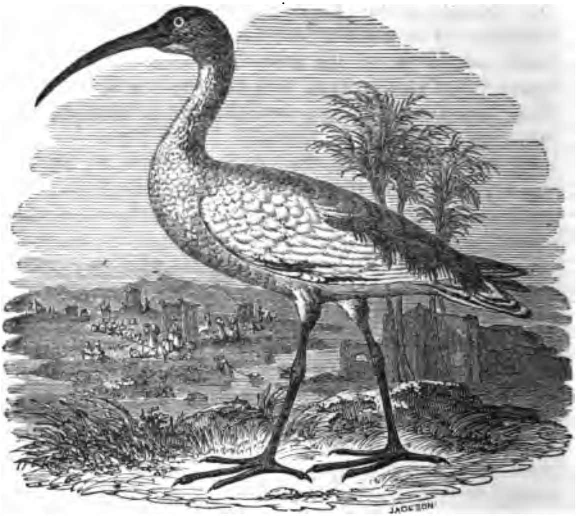
* ii. 76.



Ibis Religiosa (from the French work), the White Ibis of Herodotus. This specimen, which is a young one, is figured by Savigny, in the French work on Egypt. See a specimen of the adult bird in Jameson's Translation of Cuvier's Theory of the Earth, p. 309.

black; it has the legs of a crane, and a beak considerably curved. Its size is about that of the crex. Such is the appearance of the black Ibis, that fights with the serpents. But the other Ibis, which is more familiar with man (for there are two species of them) has no feathers on the head and neck. It is white all over except the head, neck, the tips of the wings, and the end of the rump; all these parts are very black. Its legs, head, and beak are like those of the one just described*." This bird is more frequently found embalmed than any other, and occasionally the feathers are in good preservation. Thoth, the Egyptian Hermes, is often represented with the head and beak of the Ibis. Rosellini has given (plate xiii., Nos. 1, 3, M. C.) two figures of the Ibis, which certainly belong to two different species. No. 1 has a long green beak, slightly curved; the head and neck black, except that the forepart of the neck and of the upper part of the breast are of a dirty red, with some black spots on it; the body is a light blue, and the extreme feathers of the wings which lap over the tail, are a kind of dark brown, mixed with a dirty red; the legs are black. No. 3 has a long beak, much more curved at the end than that of No. 1; the extremities of the wings, which are spread out, are black; the tail also is black, but the rest of the feathers, with some small exceptions, are left white; the legs are black. Rosellini remarks that Cuvier, who saw these drawings, considered them as agreeing with the Egyptian bird, which he had denominated Numenius Ibis[*]. He considers it a species of curlew, and remarks that the Abou-hannes of Bruce is either the same bird, or a very nearly related species. Bruce says that the Abou-hannes is often seen on the banks of the Nile; but Rosellini observes that no person among his companions ever saw this bird in Egypt, meaning by "this bird" that described by Cuvier, which Cuvier says is the same as that in Rosellini's drawings, and which of course is the same, or nearly the same, as the bird of Bruce. Rosellini further remarks, that when it is represented on the monuments as the emblem of Thoth it is painted quite black, but still does not differ at all in form from his two figures. It seems as if we could not depend altogether on the Egyptian colouring in this matter at least; though there appears no reason to doubt that the white Ibis of the Egyptians is accurately determined by Cuvier, from the examination of embalmed specimens brought from Egypt, compared with a bird of the same or a similar species in the Museum of Natural History, to be the Ibis religiosa. The story of the Ibis eating serpents (Herod. ii. 75) is untrue.

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* See Museum Ibis.

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[*] Annales du Museum, vol. iv. His description of it is, Numenius Ibis, albus, capite et collo nudis, remigum apicibus rostro et pedibus nigris, remigiis secundariis elongatis nigro-violaceis. Cuvier, in the last edition of the Règne Animal, calls it *Ibis religiosa.*

The Hawk is another bird which enjoyed the honour of being deified and embalmed. Strabo says that the Egyptian hawk was much larger than the Greek bird, and, indeed, in all respects different from it. The hawk's head is often found on a human body, forming the emblem of Phre or the Sun: the hawk itself, with the regal cap, as seen in the print, is one of the representatives of the bright luminary. We may trace in the Greek mythology a principle which very closely resembles the beast-worship of the Egyptians; for, as in the latter, almost every animal was symbolically used as the representative of a deity, so in the former also each deity had some animal, not so much a representative, as a sharer in his attributes. Thus the eagle was the bird of Jupiter, the King of the Gods; the owl, the companion of the Goddess of Wisdom, and so on. The hawk or kite had a kind of reverence paid him by the Greeks, as we may infer from the Birds* of Aristophanes.

The eagle (No. 3, line 5) and the vulture (No. 5, line 1) are obviously characterized as birds of prey. The former is not unfrequently found on the monuments, and was one of the sacred marks that determined the qualifications of the bull Apis.

It is impossible to imagine anything delineated with more truth and character than the Egyptian vulture on some of the stones. The hooked beak, sinking neck, elevated shoulder, and drooping wings make us recognize him at first sight. Though a filthy and disgusting bird, there are few animals in Egypt more useful; and, if gratitude to the brute creation for services rendered were the real origin of the veneration paid to animals, none would have deserved to occupy a higher place in the all-receiving Pantheon of Egypt. The vulture is a scavenger who eats up the offal, and clears away all animal substances that otherwise would be left to putrify and corrupt the air. According to Horapollo, a writer (of somewhat doubtful value) on the signification of hieroglyphics, the vulture was one of the symbols of Phtha or Hephæstus. He is seen with expanded wings over a door-way at Medinet Abou, and elsewhere.

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* Line

The Egyptian goose (No. 4, l. 1), the chenalopex* of Herodotus, is of frequent occurrence on the sculptures, though it was not a sacred bird; unless it may have some claims to that honour from having been a favourite article of food for the priests. A place in Upper Egypt had its name, Chenoboscion or Chenoboscia, *Goose-pens*, from these animals being fed there—probably for sale; though these may have been sacred geese, for we are told that the goose was a bird under the care of Isis. Every one recollects the story in Livy, of the geese of Juno saving the capitol.

This goose is very common in Egypt, as well as the duck of the Nile, which is probably represented by the bird (No. 4, l. 4) standing on an animal which we cannot well make out. This group is taken from one compartment of a bas-relief in the Museum:

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* "It is a bernicle, the *Anas Ægyptiaca* of Linnæus; *Anser Ægyptiacus* of Brisson: and might be called *Bernicla Ægyptiaca.*"—W. J. Broderip.

the quadruped is awkwardly placed, and looks more like a swine than anything else. A goose, plucked and ready for roasting, is lying on it. The other bird, as we have said, resembles the duck, which is so clearly delineated in the fresco painting (p. 59).

In line 2, No. 7, we have the owl, which is as common among the sculptures as it is on the coins of Athens. Hasselquist mentions both the horned owl, and another owl not horned, which live in the deserted houses of Egypt and Syria.

The crane, a bird of passage, is seen in line 4, No. 5, in the act of flight. We learn from Herodotus that the crane left Scythia, in his time, during the cold weather, and sought refuge in the more genial climate of Egypt. Hasselquist saw it in Egypt; it arrives about September or October.

In line 2, No. 3, we have one of the Egyptian locusts, or perhaps it is a bee which is common in Egypt *.

Of scarabæi (l. 3, No. 5), we see several varieties on the monuments, but we have selected one that is best known. This is the *scarabæus sacer*, found in Barbary and all along the north of Africa. He is remarkable for the radiations on the *clypeus*, or fore-part of the body, from which circumstance, as well as from the kind of semicircle formed by his fore legs, some have imagined that the notion of connecting him with the sun has arisen. This scarabæus is almost always found with a circle placed in the vacant space between the fore claws. In the rooms of the Zoological Society, Bruton Street, there are some fine specimens of this insect, brought from the Barbary coast by Capt. Lyon†. Jablonsky considers the scarabæus one of the emblems of Neith, but we have always

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[*] It has been asked—might it not be an ichneumon fly?

[†] For these facts we are indebted to the kindness of Mr. Vigors.

found it connected with Phtha or Hephæstus, the symbol of pure, eternal fire. The scarabæus or beetle must have been an insect of great importance, since he occupies a place in the zodiac of Denderah; for it is evident that the figure in the place of the crab (see Denon, pl. cxxxii.) is not a crab, but the sacred beetle. The playful genius of Aristophanes contrived to turn him to account, for in the play called the "Peace," his Trygæus is mounted on a beetle (Cantharus), and in this style ascends towards the realms above to have an audience of Jupiter. He knocks at the door, which Mercury opens, with no small surprise, as we may suppose, to see an Attic rustic mounted on so strange a Pegasus.

There is a valuable article on the scarabæus by Latreille*, the substance of which is worth giving. He remarks, that as to the interpretation of Egyptian pictorial representations, we should first endeavour to ascertain what they really represent. For want of this preliminary inquiry, Montfaucon has given us a frog as a scarabæus. Some animals are represented on Egyptian monuments according to nature, but still with variations which may have depended on the taste of the designer or other things: sometimes we see only part of an animal; and sometimes a part of one animal put in the place of a part taken from another. Belzoni found a calf with the head of a hippopotamus. Latreille observes that the only insects properly so called, that he has observed on the monuments or engraved stones †, are the scarabæus, taken in its general sense, and a winged insect, generally supposed to represent a bee.

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* Des Insectes Peints ou Sculptés sur les Mon. Antiq. de l'Egypte, Mém. Mus. d'Histoire Naturelle, vol. v.

† We are informed that of the scarabæus there are above 150 specimens in the Turin collection alone, and three of them in lapis lazuli.

The cantharus, as the Greeks named one species of beetle, must have always attracted attention from its early appearance with the warm weather in spring, and its diligence in collecting excrement in the form of a round ball, in which are placed the elements by which the race is continued*. Horapollo (cap. 10) assigns thirty fingers to all the scarabæi, a number, as he remarks, in accordance with the round number of thirty days assigned to the sun's passage through each sign of the zodiac. He makes three species: the first has a sort of rays, and hence it is consecrated to the sun: all the individuals of this species are males. It makes a ball of dung, which it buries in the earth for twenty-eight days (a lunar revolution); on the twenty-ninth the animal, which has been concealed in the ball, opens it and throws it into the water: the young scarabæi come out of the ball. The second species has two horns, and is consecrated to the moon. The third has one horn, and is supposed, like the Ibis, to be consecrated to Mercury.

Latreille observes that the first species, which makes balls of dung, is the *ateuchus*, to which he gives the French name *pilulaires*. One of the distinctive characters of this scarabæus sacer is, that the outline or contour of the head is notched or indented so as to form six projecting parts, which may be compared to rays. In most Egyptian scarabæi this form of the head is distinctly marked. On many engraved antient scarabæi the furrows or longitudinal grooves on the case which covers the wings are very deeply and distinctly marked, but in all instances when the scarabæus is represented on Egyptian monuments, the two cases are united, as in fact they are in the scarabæus sacer. The male *pilulaires* scarcely differ at all from the female. Observing that the scarabæus interred his ball, and being ignorant of the mode in which the young were produced, the Egyptians were apparently led to the notion of spontaneous generation from the union of heat and moisture. The thirty fingers which Horapollo attributes to the scarabæus are explained by Latreille, by a reference to the foot or tarsus of these insects, which he says has five articulations; the six feet will consequently have thirty articulations. And this explanation, he adds, is confirmed by one of these stones called Abraxas, figured by Montfaucon, on the authority of Kircher, who represents a scarabæus having on each anterior foot an extended hand with five fingers. The scarabæus is often represented with extended wings.

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* See Aristotle, Hist. of Animals, v. 19.

The worship or deification of the Snake is a curious part of the religious system of antient Egypt, and not the less so, that we find similar practices in India at the present day. "There* are about Thebes sacred serpents, which are quite harmless . They are of a small size, with two horns growing out of the top of the head. When dead they are interred within the precincts of the temple of Zeus (Ammon); for they are dedicated to this god." This horned snake, the *cerastes*, is one of the most common figures among the sculptures of the Museum, particularly on the two obelisks. It has been often recognized by modern naturalists, and a sketch of it is given in the French work from which this of ours is taken. The two horns are very short, and grow out over each eyebrow.

Another serpent, the last in line 3, is perhaps the most common of all the Egyptian hieroglyphics. It is known by its erect position, swollen neck, and the

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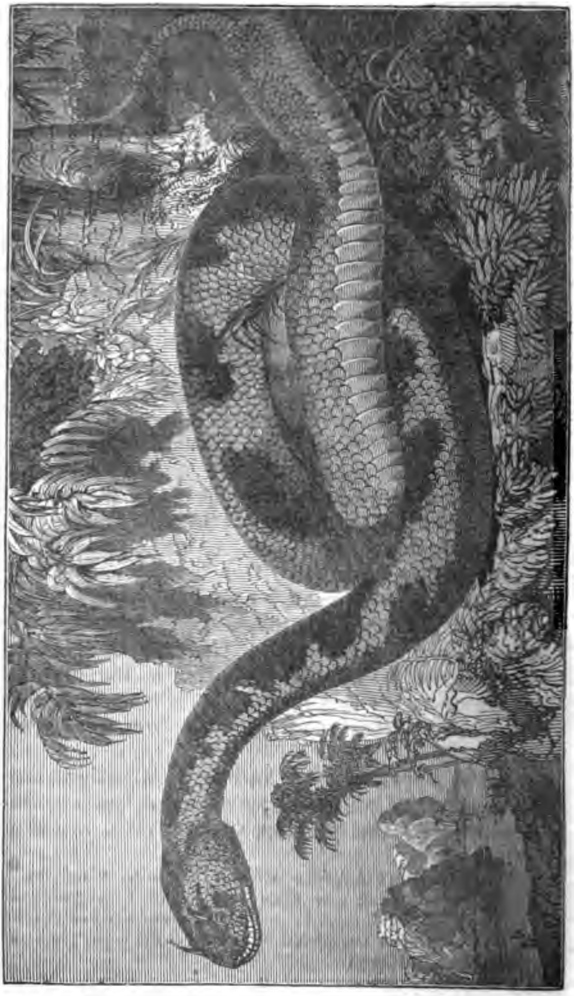
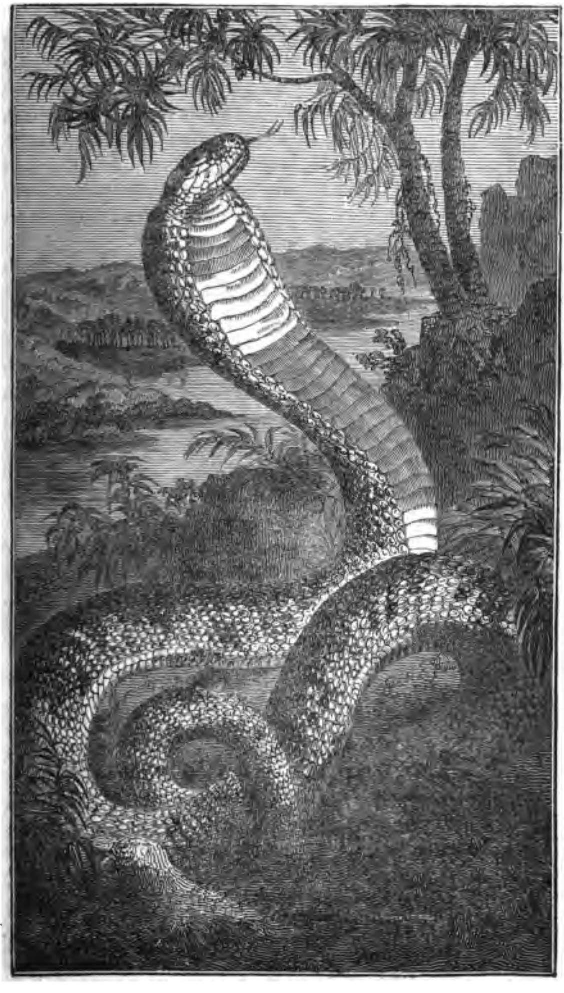
* Herod. ii. 74.

† Herodotus says ἀνθρώπων οὐδαμῶς δηλήμονες, which can hardly mean anything else than what we have translated is But the bite of the cerastes is really dangerous and sometime fatal. It has been suggested that the antient jugglers extracted the poison-fangs.



Cerastes. From the French work.



Naia Haje. From the French work.

T 3

intertwining folds of the lower part of the body. Denon has given a sketch of this serpent in the same attitude as we see it on the sculptured stone. It is the Naia Haje, a most venomous snake, which the antient Egyptians assumed as the emblem of Cneph or the Good Deity (ὁ ἀγαθὸς δαίμων). It is also a mark of regal dignity, and is seen on the forepart of the tiara of almost all Egyptian statues of deities and kings.

The smaller serpent in line 5 is remarkable for the attitude. It may easily be seen that many of the characters in the common or enchorial writing, as it is called, are only abbreviations or hasty sketches of the more complete hieroglyphic pictures; but in no instance is it so remarkable as in the case of this serpent, which appears in the common writing system as distinctly as it does in the more elaborate sacred language. A single stroke, with the proper bend in it, determines the form and the power of this letter, which we can hardly doubt to be that of S.

As all Egyptian books are lost (if indeed there ever were any), and the nation's political existence may be said to have terminated near two thousand years ago, we must often turn to other countries to seek for something that may throw light on the usages or religious system of Egypt. India is of all others the most rich in *still existing examples* of superstition, that render our belief about the monstrosities of the Nile valley somewhat stronger than it would be without such parallel instances. "Among* reptiles is the venomous Nâg†, the cobra do capello of European zoology. This active and deadly serpent is sometimes worshipped in temples, where it is pampered with milk and sugar by the priests; and a surprising instance of the effect of kind treatment in subduing the most irritable spirits is exemplified in these creatures. The Hindus have a notion that the sagacity and the long-cherished malice of this worm are equal to that of man. I have seen them come out from their holes in the temples, when a pipe has been played to them, and feed out of the hand as tamely as any domestic animal; and it is when in this state of docility, so opposite to their shy but impetuous nature, the common people believe that the deity has condescended to adopt that form. It seems probable that this hooded snake was the dragon of the heathen worship; and the shape of its head, and its activity when in a state of excitement, probably gave rise to the fable of its being winged."

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* Colonel Briggs.

† *Coluber Naia*, Linn. *Naia Tripudians*, Merr.

CHAPTER IX.

ON THE ARTS OF ANTIENT EGYPT.

THIS subject is one of such extent that it would be impossible to do justice to it within the limits of a small chapter, and without a series of investigations which would require the labour of many years, and an exact practical knowledge of many modern processes in the arts. But so much has now been written on the various branches of Egyptian archæology, that it is hardly possible to omit giving some short notices of a few of those branches of industry which may be considered as most characteristic of the state of the arts in Egypt. We shall therefore treat briefly of the working in metals, and of the Egyptian fabrication of glass. When a nation has made considerable progress in the working of metals, and their application to domestic use, and in the manufacture of glass both for purposes of daily convenience and ornament, it may be safely inferred that all the useful arts have attained a high degree of perfection.

The vivid colours of many Egyptian paintings are one among other proofs, that at least some vegetable colouring materials were used; but in the infancy of the art it seems quite as likely that earthy substances would be first employed, and many kinds of earth, well adapted to the purposes of rude painting, would readily be found in Egypt. It would be a further step to make use of the various oxides of metals for colouring substances, which, as we have shown in the chapter on painting, were well known to the

Egyptian artist. Some time ago, before Egypt had been well explored, it was a disputed point how far the antient Egyptians were acquainted with the useful metals. We now know that minerals of various kinds are found in the mountains between the Nile and the Red Sea, and that the mines of gold, copper, iron, and lead were worked at a very remote date under the early Pharaohs. It would indeed hardly admit of contradiction, if we were to assert that a people who erected such enormous buildings, and reduced to shape the most stubborn rocks, which they covered with a profusion of figures, executed with the greatest accuracy and finish, could not have been unacquainted with the use of iron implements. As far as the evidence of the Pentateuch goes, and that of the Greek and Roman writers, there can be no doubt of the high antiquity of the metallurgic arts in Egyyt; but the best evidence is that to the consideration of which we mainly devote this short chapter.

As to gold, the gold leaf found in and about mummy-cases of high antiquity proves that not only had the Egyptians an abundant supply of this metal, but also that they were acquainted with the art of gilding. In a fragment of Agatharchides on the Red Sea, there is a very curious passage, in which he describes the antient mode of working the gold mines.

"The kings of Egypt compelled many poor people, together with their wives and children, to labour in the gold mines, wherein they underwent more suffering than can well be imagined. The hard rocks of the gold mountains being cleft by heating them with burning wood*, the workmen then apply their iron implements. The young and active, with iron hammers, break the rock in pieces, and form a number of narrow passages, not running in straight lines, but following the direction of the vein of gold, which is as irregular in its course as the roots of a tree. The workmen have lights fastened on their forehead, by the aid of which they cut their way through the rock, always following the white veins of stone. To keep them to their task an overseer stands by, ready to inflict a blow on the lazy. The material that is thus loosened is carried out of the galleries by boys, and received at the mouth of the mine by old men and the weaker labourers, who then carry it to the epoptæ, or inspectors. These are young men, under thirty years of age, strong and vigorous, who pound the broken fragments in iron mortars with a stone pestle till there is no piece larger than a pea*. It is then placed on grinding-stones or a kind of mill-stones, and women, three on each side, work at it till it is reduced to a fine powder. These poor women are entirely naked, except some small covering for decency's sake, and, as well as the men, they find the labour of the mines a most intolerable burden. The fine powder is then passed on to a set of workmen, called Sellangeis (Σηλλαγγεῖς), who place it on a finely polished board, not lying in a flat position, but sloping a little. The sellangeus, after pouring some water on the board, rubs it with his hand, at first gently, but afterwards more vigorously, by which process the lighter earthy particles slide off along the slope of the board, and the heavier parts are left behind. He then takes soft sponges, with which he presses on the board rather gently, which causes the lighter particles to adhere to the sponge, while the heavy shining grains still keep their place on the board, owing to their weight. From the sellangeis the gold particles are transferred to the roasters

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* Just as the Hindus do at the present day. See vol. i. p. 356, on the art of quarrying stone among the antient Egyptians.

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* ὄροβος, a vetch, probably.

(ἑψῆται), who measure and weigh all that they receive, before putting it into an earthen jar. With the gold particles they mix lead in a certain proportion, lumps of salt, a little tin, and barley bran, and putting a cover on the jar that fits tight, and smearing it all over, they burn it in a furnace for five days and nights without intermission. On the sixth day they cool the vessel and take out the gold, which they find somewhat diminished in quantity: all the other substances entirely disappear. These mines were worked under the antient kings of Egypt, but abandoned during the occupation of the country by the Ethiopians, and afterwards by the Medes and Persians. Even at the present* day we may find copper† (χαλκαῖ) chisels or implements in the galleries (the use of iron not having been known at that time), and innumerable skeletons of the wretched beings who lost their lives in the passages of the mine. The excavations are of great extent, and reach down to the sea-coast."

Diodorus, in his third book (chaps. 12, 13, &c.), gives us the same account of these mines, which he has taken from Agatharchides. And Pliny, a compiler of a later age, in his thirty-third book (chap. 4), has evidently derived part of his information from the same source.

D'Anville long ago assigned the position of these mines as corresponding to that of Jebel Allaka; but it appears to us that this situation does not answer so well to the description of Agatharchides as the site of Hamamy, a place which we shall presently mention, where Mr. Burton imagines gold is to be found.

Copper was in much use in Egypt, both as supplying a material for paint, and for other domestic uses. Many bronze figures, called Egyptian, still remain, and we have given sketches of some which are in the Museum collection. But till we know the localities from which such specimens of antiquity are brought, we shall always be in doubt whether they are works of pure Egyptian art, or were manufactured after the Greek occupation of that country, or finally fabricated in Italy. A purchase which was made by Belzoni of the Arabs of Gourneh, will tend to show the antiquity of the art of manufacturing bronze vessels of curious workmanship; for it is not about the ordinary use of copper or of bronze that any doubt may be raised: the question is simply what proof there is that many of these works in metal, called Egyptian, are works of antiquity, as old as the age of Herodotus, for instance. Belzoni* bought of these Arabs of Gourneh what he calls "a beautiful brazen vessel," "with hieroglyphics on it, very finely executed. It was about eighteen inches high, and ten inches in diameter:" this would appear, taking into account all the circumstances, to be a piece of genuine old Egyptian workmanship. He bought another exactly like this†. The Egyptian Museum at Paris contains several mirrors made of a metal that looks like brass: they were purchased, together with numerous other articles illustrative of Egyptian arts and customs, by the French government, from Mr. Salt.

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* That is, during the first century before the Christian æra.

† He therefore means copper in the earlier part of this extract, though he uses the word that signifies iron.

Copper ore‡ is now found at a place called Hamamy, about 26° 26′ north latitude, 33° 10′ east longitude; and numerous indications of these mines having been worked at a very distant epoch, are visible about this locality. Copper ore is also found at Reigat Ameriah, latitude 29° 10′, longitude 32° 20′. At the former place, specimens of specular iron ore also are discovered, which remove all doubt as to the masons of antient Egypt having been able to procure iron—a material without which we can hardly conceive how they could have fashioned those hard masses of stone into the forms of architecture and sculpture. In India, where iron ore is very plentiful, the art of smelting it and of manufacturing excellent steel is undoubtedly of very high antiquity, and it seems not unlikely that the same arts were known in Egypt, where a supply of the raw material was ready at hand. Belzoni, who believes that iron was known to the antient Egyptians, thinks it singular that they did not make instruments of war of it as well as domestic utensils; or if they did, he considers it strange that no specimens of such manufactured articles are found. But the perishable nature of iron, compared with bronze or gold, is of itself almost a sufficient reason for implements of this metal not being found. Besides this, iron, if found by any of the people who have at different periods possessed Egypt, would almost immediately be converted into some useful implement; and, in addition to all this, we hardly know where we ought to expect to find iron, except it might be in the mummy-boxes—provided it was the practice of the Egyptians to have the instruments of their profession buried with them. And indeed this is not an improbable hypothesis—at least it is one of Abdallatif's, who says, "I have been informed by credible people, that they have found on the body of a barber his stone for sharpening his razor; another body had with it a cupping-glass, or an instrument which served the purpose of a cupping-glass; and on that of a weaver were found the implements of his art. This induces us to think that it was the practice among the antient people to inter with their dead the instruments of their profession." Belzoni found an iron sickle at Thebes, under the feet of a sphinx, which he removed: it was broken into three pieces, and almost devoured by the rust. In shape it resembled the sickles represented in the paintings* of the tombs, which, in truth, are very much like our own sickles, but, as Belzoni remarks, somewhat thicker. The question as to the antiquity of the sickle depends on the date when the sphinxes, and other statues found with them, were placed in their present position. These figures when discovered were lying in an irregular and confused manner, as if some attempt had been made to hide them, which, our informant argues, could not have taken place subsequently to the age of the Ptolemies; "for it appears, that since the time of Cambyses, who destroyed the gods of Egypt, the country has never been invaded, so as to compel the people to conceal their idols." This conclusion is not sound, because the premises are untrue. We believe the fury of the Iconoclasts was more destructive to Egyptian art than all the ravages of all the barbarians who have ever vented their rage on the monuments of Egypt. It is enough to refer to the facts that they pulled down temples to build churches with the materials, and covered the sculptured paintings with the images of saints. We have merely noticed the discovery of this sickle as a curious but not a conclusive fact. That the Egyptians had iron in the time of Herodotus, is perfectly clear from the way in which he speaks of the process of embalming.

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* P. 160, &c.

† E. W. Lane, Esq. (to whom we are indebted for various suggestions and corrections in this volume), possesses a bronze battle-axe, which he lately purchased at Thebes. It bears a cartouche, which is interpreted to contain the name of Thothmos the Third, supposed to be Mœris.

‡ These facts were taken, with Mr. Greenough's permission, from the papers of Mr. James Burton, then in Egypt. Mr. Burton has recently returned to England. Mr. Greenough possesses specimens of both the iron and copper ores.

The only specimen of military implements which we have heard of, as *undoubtedly* Egyptian, is an arrow-head of copper found by Belzoni in a tomb. But no doubt other specimens must have been found.

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* See p. 163.

We do not at present know of lead being found within the limits of Egypt properly so called; but it is said to exist at a place called Sheff, near Mount Sinai*. This district was included in the empire of the antient Egyptian kings, as we may infer from the stones with Egyptian hieroglyphics found near this mountain, and described by Niebuhr. With this we may connect the following remark of Belzoni: "They had a metallic composition not unlike our lead, rather softer but of greater tenacity. It is much like the lead which we see on paper in the tea-chests from China, but much thicker. I found some pieces of it covered on both sides with a thin coat of metal, which might be taken for silver, but I cannot believe it to be so. It certainly is a proof of the scarcity of this metal in Egypt, where, in my opinion, it was less common than gold; for it is seldom found, whereas the latter is quite common on the ornaments." We do know, however, that silver was used in Egypt, though it may have been rare. The lead † mines alone, if we suppose them to have been worked by the Egyptians, would probably have furnished some silver. Denon (pl. xcviii.) describes a small plate of silver which was found on a mummy from Thebes. The piece is of a rectangular form, containing about nine and one-third square inches, and pierced with a small hole at each of the four angles, where it was sewed to the mummy-cloth, just over the stomach. The figure of an eye is marked upon it—a device often met with on the Egyptian monuments and on some of the smaller Egyptian antiques. In the Egyptian Museum at Paris there is a small figure or two inlaid with silver. There is a little story about silver, connected with the antient history of Egypt, that is worth noticing. Aryandes*, a Persian governor of Egypt under Darius, was put to death by his master for issuing a silver coinage. Herodotus adds, that in his time the silver of Aryandes was the purest in circulation. We have no information whence Aryandes procured the precious metal.

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* Since writing this we have received the following communication:—"I have just learned from Mr. Burton that there are antient lead-mines in Egypt, about 30 miles north of the road to Cosseir, at the junction of the granite and limestone. The ore of these mines has been exhausted by working. Other lead-mines, which Mr. Burton himself has not visited, occur about 30 miles to the south of the Cosseir road, and might perhaps be again worked to profit."—G. B. Greenough.

† Lead is called in Hindustanee *Mulwa*, from the name of the province from which it comes. This serves to explain the Greek μολυβος and μολυβδος. See Bohlen, ii. 118. *Plumbum*, Lat.; lead, Eng.; and *Blei*, Germ., are all of the same kin.

Of tin, which Agatharchides mentions as in use among the antient Egyptians, we are not aware that there are any traces in that country, though it is said to be found in some remote parts of Africa. It must have come, therefore, by some indirect route from northern India, from which country we believe this metal was introduced into western Asia and into Greece before the Phœnicians had visited, as it is *supposed* they did, the southern shores of Britain, or the northern coasts of the Spanish peninsula.

We see the working of metals represented in Egyptian paintings. In the centre of one picture we see a fire burning, into which a man is sticking a long piece of metal, probably iron, in the bar. The fire is kept up by two men, each blowing a pair of bellows, which they work with their feet. The bellows are at some distance from the fire, with which they are connected by long narrow pipes, apparently of cane, furnished at the end with pointed metal muzzles. A string is fastened to each bellows, and the blower takes one string in his right hand and the other in his left. He presses with one foot on the bellows that is filled with air, at the same time raising his other foot from that which is just exhausted, and pulling upwards with the string that is attached to it. In another place they are melting something over the fire in a thing shaped nearly like a retort; the next process is to pour the melted material into small triangular-shaped vessels. Casting of some description seems to be intended*.

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* Herod. ii.

The art of working in the precious metals, such as the making of golden ornaments, and gold vases of large size and beautiful workmanship, might be inferred from a variety of incidental notices in antient writers, but is confirmed by the representations given in Rosellini (M. C. lviii.). Here we see numerous vases, painted yellow, which no doubt is intended to represent gold. Many of these, though exceedingly grotesque in some of their details, are often very finely formed, and indicate not only a high state of manual skill, but much taste and imagination. Plate lvii. (M. C.), and other plates in the same work, contain drawings of a very great variety of vases and vessels, some of which, for the lightness and beauty of their form, are not surpassed by any specimens of antient or modern art. In a plate of Rosellini (M. C. lxxxv.) two men appear to be working metal, probably iron.

Among the precious stones of Egypt, which were an object of mining speculation, was the emerald. The mines are at a place called Jebel Zabara, or emerald mountain, in the parallel of 24° 30′, about six or eight hours' journey from the Red Sea. Belzoni visited them in 1816, and his account is curious, as it shows a picture of human suffering not unlike that described by the Greek geographer in the gold mines*. He found about fifty men at work in the old mines, but with little success. These wretched beings received their provisions from the Nile, which is seven days' journey distant, and it often happened that they were reduced to great extremities for want of food. The old shafts were choked up with rubbish, and it was a most painful task to creep along the obstructed passages and clear them out. Sometimes the workmen rebelled against their overseers, and in one instance killed two of them. Belzoni remarked that there was a great number of mines in this mountain, and the enormous quantity of earth that had been taken out would serve to give some idea of the extent to which this place had been worked in former times. The shafts are not driven in any regular angle, though they all tend towards the centre, which lies under the highest point of the hill; the strata of marble and the mica appear to be the guides of the miners.

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* Rosellini, M. C. l.

To Mr. Burton's researches we are also indebted for information on one or two other sites, which possess an historical interest. At Jebel Dokkan, in the parallel of Siout, and about 33° long. east, there are the remains of an antient road leading from what Mr. Burton † considers the antient Myos Hormos, to the Mons Porphyrites, now Jebel Dokhan. On this mountain are to be seen many blocks of porphyry chiselled out, some with Egyptian enchorial characters on them; and others in the forms of columns, sarcophagi, &c. Here is an Ionic temple with a Greek inscription. The site of the alabaster quarries has also been discovered by Messrs. Burton and Wilkinson, from which the Egyptians procured materials for their sarcophagi and urns. This place is mentioned both by Pliny and Ptolemy, but no information was given by them, precise enough to enable us to fix its position. D'Anville, at a guess, fixed it considerably too much to the north and east: its true situation is about 27° 43′ N. lat., 31° E. long., near a place marked Tel el Amara in Mr. Burton's plan. A cultivated slip lies between the river and the heights where the alabaster is found. The former occupation of this site of Alabastron is indicated by a number of wells, traces of roads, and other undoubted signs. In Mr. Burton's plan which we have before us, there is a road leading from what is apparently the highest part, down a slope towards the river; and by such a route we may conjecture that the materials of the quarries were conveyed to the river to be shipped. Mr. Burton has given in his Excerpta two lithographed plates of the sculptures found at Alabastron. In one of the plates we have a curious subject: a figure with the face erased, but the high cap quite distinct on the head, stands before an altar, with a knife held up in the right hand. Behind this figure stands another, much damaged, with a raised knife also in the right hand. In one corner of the square tablet, opposite to the face of the principal figure, is a circle, probably representing the sun, while from the lower part of its circumference fifteen shafts issue, all of which are furnished at the end with a hand. Three of these hands contain the sacred *tau*, one of which seems going to drop into the uplifted hand of the second figure.

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* p. 314. See also Cailliaud's Voyage à l'Oasis de Thèbes &c., fait pendant les années 1815-6-7-8. Paris, 1821.

† See Morning Chronicle, Oct. 33, 1823. Mr. Burton's Myos Hormos, which is probably the true one, is 15′ north of the position of this place in the Society's map.

This singular device of the circle, with radii stretching out from the circumference, and furnished with hands, appears in one of the vertical columns of another hieroglyphic tablet at Alabastron; where in one instance we see it reduced to a circle with four radii starting from the circumference, and without the hands. Numerous proper names enclosed in cartouches are found both in this tablet and the plate just mentioned. In some instances they have been carefully erased—a thing which we often observe on the antient monuments of Egypt.

Between Kenneh and Cosseir are quarries of *verde antico*. This route is now well known both from the accounts of various travellers, and from Mr. Burton, who in his Excerpta Hieroglyphica has given copies of many of the antient Egyptian inscriptions on this line of road.

The quarries of breccia, a material also used in Egyptian sculpture, are found in a great many places. Chalk, sulphur, petroleum (at Jebel Ezzeit on the coast of the Red Sea) are also among the natural products of the Eastern desert.

The art of fabricating glass is of high antiquity; and it was probably known in Egypt as early as in any other country, and perhaps earlier. Beads of glass, generally coloured blue, probably with copper, are found on many mummies, and we have sometimes seen larger and more irregular pieces that have been taken out of mummy-boxes. Other ornaments of a coarse kind are also found made of glass*. It has been conjectured, and, as we think, with great probability, that the ornaments placed in the ears of the crocodiles, which Herodotus calls "stone pendants, made by fusion or melting" (*ἀρτήματα λίθινα χυτὰ*), were of glass, and we have translated the passage accordingly in speaking of the crocodile. It may be well to remark that the strict examination of M. G.-St.-Hilaire confirms Herodotus even in so minute a matter as the piercing of the crocodile's ears. He found the anterior part of the covering of the ear on a mummy-crocodile pierced as if for the purpose of putting a pendant in it.

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* Belzoni.

A kind of antient porcelain is found in great quantities in Egypt. Sometimes it is covered with a species of enamel or varnish. It was uesd for making a variety of small figures, such as we may see represented in Denon's ninety-sixth plate, most of which are probably representations of some form of deity. There is one, which is a rare specimen, being a figure of the ichneumon or mangouste, in what Denon calls touchstone. It was the only representation that he met with in Egypt of this sacred animal. He purchased it in the island of Elephantine, where he found a woman wearing it suspended from her neck. We find the beetle also made of porcelain of all colours, of touchstone, cornelian, jasper, pot-stone, verde antico, and even baked clay. Bonaparte had a jasper scarabæus in his collection, with hieroglyphics on the under side: Denon says that this scarabæus had evidently been worked with the wheel. It is somewhat singular that the under sides of the scarabæi almost always differ one from another in the ornaments upon them.

The art of baking clay and fixing the varnish strongly upon it must be considered as an antient Egyptian art; vessels of this description, with their colours in high perfection, were found in the great tomb that Belzoni opened at Thebes.

A blue colour is sometimes found tolerably thick on the surface of small baked figures, which it is supposed were merely dipped in the glazing material or smeared with it, but not burnt. This colour, which may easily be scraped off with a knife, is oxide of copper, formed into a glazing material by means of natron, or common salt*. Earthen figures, of about a finger's length, are also often found:

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* Minutoli, Reise, &c., Appendix by Prof. John.

they are made of a ferruginous clay, and are glazed with the material just mentioned, but in these instances the glazing has been fixed by heat. What is commonly called the glass-beading about mummies is similarly made. Some mummies, as already observed, are covered with a net-work, consisting of small cylinders of a greenish blue colour, pierced in the direction of their length, and then threaded on a string. These cylinders are made of a plastic clay, and were probably in this state pierced with a thread or wire, after which they were baked. The glazing material, together with natron, was then smeared over them and they were burnt again. It appears that no colouring matter was in the cylinder, for the ashes of it show none at all; the colouring matter is therefore only external. Prof. John considers the colouring matter of these small cylinders to be ferruginous oxide of copper: the greater the proportion of iron, the more does the colour incline to green; and finally, by increasing the proportion of iron still more, it passes into yellow. He infers from his analysis that these cylinders are a kind of glass, consisting of a considerable proportion of silex, with some lime, natron, and a little clay and oxide of iron. Great difficulty was experienced in melting these cylinders under the blow-pipe, which is attributed to the small quantity of natron in their composition.

Professor John* has analysed several specimens of Egyptian glass. The most common colour is blue; and the glass is either quite opaque or translucent in different degrees. It has a conchoidal fracture. He concludes from his analysis that this glass consists of silex, natron, and a little lime: the colouring matter is either oxide of copper with a little oxide of iron, or a little ferruginous oxide of cobalt. He describes a violet glass from Memphis as coloured with oxide of manganese. It appears from the experiments of Sir H. Davy, that all the blue and green Egyptian opaque glassy substances which he examined were coloured with copper *.

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* Appendix to Minutoli, p. 351, &c.

By comparing the descriptions of Vitruvius, Pliny, and Theophrastus, he concludes that the colouring materials used by the Greeks and Romans were the same; and by analysing such substances as have been discovered at Pompeii and elsewhere, he was enabled to discover the constituent parts. Theophrastus describes, among other colours, a beautiful Egyptian blue, which Sir H. Davy shows to be composed of the following parts:—

Carbonate of soda	15
Silex	20
Copper filings	3

The mixture, when subjected to a strong heat for two hours, produced a frit, which on being pulverized was of a beautiful deep sky-blue †. It appears from the experiments of Davy and John, that the Egyptians could produce a fine blue colour by means of copper only; and we have already shown that the metal exists in the country, and that there was no occasion, as some have supposed, to go so far as India for it. But Sir H. Davy affirms that all the antient transparent blue glasses, of which he examined nine specimens, were coloured with cobalt; and he is of opinion that wherever copper has been discovered in antient blue glass, the glass must have been opaque.

A curious black substance has been found in some mummies of the more costly kind, which has often been incorrectly taken for a kind of stone: it is shaped something like a finger, only it is flat, but

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* Annales de Chimie, tom. xcvi.

† Ibid.

still rounded at the ends and sides; the length is from three to six inches, and the breadth half an inch or more. Sometimes two are united, and present an appearance like the index and second finger of the hand stretched out close to one another. John* observes that this substance is either obsidian or glass, and that it appears to be glass from its having a less degree of hardness than obsidian, and being more fusible. He considers it to be true glass coloured with iron. On the exterior it is of a dull appearance, and in parts is gilded.

As we find so many of the arts represented on the antient paintings of Egypt, we might expect to find glass-making among them. Rosellini's plates (M. C. lii.) certainly appear to represent men blowing glass, but we would not positively assert this explanation to be correct. Still the antiquity of glass-making in Egypt is proved decisively by the evidence already adduced, and it wants no confirmation.

Pliny informs us (xxxvi. 26) that some sailors having landed on the shore of Phœnicia, at the mouth of the Belus, and wishing to cook their provisions, placed some masses of salt (of which their cargo consisted) under their pots to support them, there being no stones on the coast. The heat formed the salt and the sand of the shore into a transparent liquid mass, and thus gave origin to the substance called glass (vitrum.) But though this fact may be considered a truth, so far as to indicate the generally received opinion of the high antiquity of the Phœnician glass-houses, it is unsupported by the kind of evidence which determines the high antiquity of the art in Egypt—the specimens which have come down to our own day. It seems not unlikely that Egypt was the parent country of the art, whence it was diffused among the Phœnicians, Greeks, and Romans. During the latter part of the Roman republic, and under the early emperors, the wealthy Romans made great use of glass in a variety of forms as an article of luxury. A great part of it was imported from Egypt and Phœnicia, and the art itself was also transplanted into Italy. From Italy it is probable that the Romans carried it into Spain and Gaul, for the art of glass-making was known in these countries in Pliny's time* ; and thus the remote parts of Europe received from the banks of the Nile the principles of a branch of industry which, revived and perfected in modern times, has contributed perhaps as much as any other to the comfort of life and the progress of science. M. Boudet has collected a great number of passages, principally from the Latin writers, which show that glass was very extensively used by the Romans, and that the art of the Egyptians and Phœnicians had succeeded in giving it a variety of forms that ministered to convenience or luxury. Drinking-glasses, burning-glasses, mirrors†, and artificial gems, were all made of glass long before the time of Pliny. Glass was also let into the roof of the bathing-chambers at Rome, in order to light the rooms—a use which is still made of it at the present day in Egypt. Coloured glass was also used to ornament the walls and pavements of the houses of the rich. The art of glass-making still exists in Egypt, but its products are limited to clumsy bottles, pieces of glass slightly rounded for setting in the ceiling of baths, a kind of jug or decanter which serves for a lamp, and other similar coarse articles.

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* Appendix to Minutoli, p. 352.—Mr. E. W. Lane observes that there are many pairs of fingers of the form here described of porphyry and other kinds of stone.

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* xxxvi. 26. See the whole of the chapter; and also Notice Historique de l'Art de la Verrerie, né en Egypte, par M. Boudet; Description de l'Egypte, vol. ix. Antiq. Mémoires. This essay, and the remarks of Professor John in the Appendix to Minutoli, are our authority for the statements in the text.

† Speculis conficiendis non est aptior alia vitro materia. Plin.

An enormous quantity of broken pottery is found about the sites of old Egyptian towns. It would argue no great skill in the antient inhabitants of this country merely to show that they could bake vessels of clay—an art not unknown even to some tribes of the North American Indians, who yet appear to have no great taste for manufacturing. But it is the *form* of such objects of domestic use that deserves our particular attention, as we hold it to be impossible that a nation can be low in the scale of social refinement, where the forms of their furniture and utensils are such as have obviously been designed with the view of giving pleasure to the eye. In the tombs particularly, and also on the sculptured monuments, we find ample proof that the Egyptians knew how to give a beautiful form to a common water-pitcher, as well as to more elaborate articles of luxury. In the great French work, and in Denon also, we have copies of many articles of furniture, which are singularly beautiful in their forms. For instance, the chair on which the sculptor is seated (p.64), and the specimens from the tombs of the kings of Thebes, will serve to give some idea of the elegance of their domestic utensils.

But the best specimens of the beautiful forms of Egyptian chairs are in the work of Rosellini (Dispensa, xiii. 90, 91, 92). Pl. 90. contains a beautiful chair like one in the pictures of the Museum, with the legs crossed and fastened by a pin: here the seat does not appear to be a flexible material, but a curved piece of wood with a cushion on it. Pl. 91 contains several highly ornamented chairs, on one of which there is a standing lion that reminds us of the description of King Solomon's throne; another has captives as supports, with their arms tied behind them. If the materials of these chairs were wood, which is most probable, the cabinet-makers of Egypt were not behind the best of our own day, either in tasteful design or manual execution. Pl. 92 contains chairs or rather couches of animal-forms, such as very often occur in Egyptian designs; that is, heads of lions, &c. at one end with the legs as supporters, and the tails curled up at the other end. These couches have cushions on them, red and blue. Two of them look like beds, and one has some steps near it apparently to help a person to get upon it. In some of Rosellini's drawings we see men employed in making the various parts of chairs, such as legs, &c. In the Egyptian Museum at Paris there is a chair which was taken from a tomb.

Of musical instruments, we meet with representations both of pipes or wind instruments, and of various kinds of stringed instruments, including the harp. The latter is frequently seen in the caves of Thebes, and was first noticed by Bruce, who gave a drawing of a Theban harper somewhat improved.

The Egyptians knew the art of making leather, which in itself, indeed, is no proof of very advanced civilization, as the preparation of skins is often practised to a certain extent even among very rude nations. Belzoni, however, found shoes of leather of various shapes, well tanned, stained, and embossed: the last operation he conjectures may have been performed, while the material was soft, with a hot iron.

The weaving and dyeing of linen cloth are arts of high antiquity. That which is found on the mummies is of various qualities, but generally rather coarse. Indeed it seems pretty clear, from an examination of some specimens, that it was not uncommon to use for this purpose old cloth that had already been applied to some other service. On mummies of a higher class, there is found cloth as fine as muslin, strong, and of an even texture. Mrs. Lushington describes a mummy which she saw at Thebes as "wrapped in a garment curiously wrought with gold lace, and apparently of a tough texture." In the time of Herodotus, Egyptian linen was in high repute among the Greeks, and formed a large article of export from that country; and even still earlier, Ezekiel* uses the following expression:—"fine linen with embroidered work from Egypt was that which thou spreadest forth to be thy sail;"—where he is addressing the city of Tyre, and foretelling the end of its commerce and luxury. The men† were the weavers, as in India; we sometimes see the process of weaving represented, as in the grottoes of Beni-hassan. The loom is very simple, and is fixed on four posts driven into the ground.

It is, and long has been, a popular belief that the antient Egyptians possessed a high degree of scientific knowledge, and were especially well versed in astronomy. But there is very little, we may almost say, there is no evidence to prove that they had made any great progress either in geometry or astronomy. Herodotus tells us that in his time the Egyptian year consisted of three hundred and sixty-five days; and though this excellent traveller, who was no astronomer, considers the Egyptian to be much superior to the then Greek calendar, we shall hardly be inclined to give the Egyptians much credit for exact observation, when their civil year involved so considerable an error as nearly six hours annually. But to correct this, we are told, they had a cycle of 1,461 years, called the Sothiac period, at the end of which time all the religious festivals, after making the tour of all the days of the civil year, occurred again on the same days as at the commencement of the cycle. Thus an Egyptian festival, which in the year *one* would fall on the first of the month Thoth, would, after the lapse of four years, fall on the second day of the same month, and in this way the civil reckoning would be generally at variance with the physical phenomena of the season. Now whatever evidence there may be as to this Sothiac period being in use among the Egyptian *savans* before the Persian conquest, it is a great absurdity to believe that the genuine popular festivals of any nation depend on any thing else than the seasons; which recur with regularity enough to prevent people from celebrating a summer festival in a cold season, or any festival connected with the regular operations of nature (as most popular festivals, or their origin at least, undoubtedly are,) at any time which should be annually changing. The rising of the Nile is in fact a phenomenon of such almost invariable regularity, that it would be the regulator and corrector of the Egyptian popular festivals. It is well observed* that this Sothiac period, supposing it to be of high antiquity in Egypt, could not have been deduced from observation of the tropical year; for this year being shorter than a sidereal year would require a period of 1,506 years to bring back the feast-days to the same place which they occupied at the commencement of the cycle. But to get rid of this difficulty, a rural year is conjectured to have been in use, which was determined between two heliacal risings of the star Sirius, and this kind of year (consisting of 365¼ days), would suit the Sothiac period of 1,461 years as already described.

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* xxvii. 7. One of the most curious monuments of antient commercial history.

† Herod. ii. 35, and the paintings.

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* See History of Astron., Lib. Useful Knowledge, p. 15.

CHAPTER X.

THE ROSETTA STONE.

THE Rosetta stone* was found by the French among the ruins of Fort St. Julien, which is near the mouth of the Rosetta branch of the Nile. General Turner was informed that there was a similar stone at Menouf, but that the inscription was nearly obliterated by the earthen jugs being placed on it, as it stood near the water. He was also told that there was a fragment of one placed in the walls of the French fortifications of Alexandria. By the sixteenth article of the capitulation of Alexandria, all the objects collected by the French Institute of Egypt and by others were to be delivered up to the British. After some discussion, Lord Hutchinson, the British commander, gave up the claim to all objects of natural history, but insisted on the complete fulfilment of the sixteenth article as to all other things. The Rosetta stone was among the antiquities thus claimed, and it was conveyed from the house of the French commander General Menou, whose private property it had become, by General Turner, at the command of Lord Hutchinson. It was placed on board the frigate *Egyptienne*, which had been taken in the harbour of Alexandria, and arrived at Portsmouth in February, 1802. General Turner came to England in the same vessel.

The Rosetta stone, No. 32 in the British Museum, is a piece of black basalt. In its present state it is much mutilated, chiefly at the top and at the right side. Its greatest length, in its present condition, is about three feet, measured on the flat face which contains the writing: its breadth, which in some parts is entire, is about two feet five inches. The under part of the stone, which is not written upon, is left rough: in thickness the stone varies from ten to twelve inches.

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* General H. Turner's Letter in the Archæologia, vol. xvi.

The discovery of this triple inscription excited a very lively interest among all who had devoted themselves to Egyptian archæology, since it gave hopes that we should at last be able by means of it to decipher the numerous inscriptions of antient Egypt. The Rosetta stone contains parts of three distinct inscriptions; the highest on the stone is in what we generally call hieroglyphics; the second is in that character commonly called the "enchorial," or "the characters of the country;" and the third, which is in Greek, declares at the end that the decree which this stone contains was cut in three different characters, the "sacred characters," "those of the country" or the "enchorial," and "the Greek *." A large part of the hieroglyphic inscription is broken off; the beginning

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* The Rosetta stone was erected in the reign of Ptolemy V. Epiphanes, probably about B. C. 193. The reign of Epiphanes commenced on the death of his father Philopator, B. C. 205, when Epiphanes was a child only four or five years old. The inscription then belongs to the first or at least the earliest years of the reign of the fifth Ptolemy. In this monument, of which the Greek text is nearly entire, the acts done during the prince's minority are attributed to him; and he is commended for his piety, his liberality to the temples, his remission of arrears of taxes and diminution of the imposts, his victories over the rebels, and his protection of the lands by dams against the inundations of the Nile. This inscription is a monument of the gratitude and the policy of the priests, who flattered the young king for his exploits, and perhaps felt truly grateful for his favour. To commemorate this history, the priests decreed that a statue should be erected to him in the sanctuary (adytum) of all the temples, and also to dedicate a small temple to him.

of the first fifteen lines of the enchorial or second inscription is also wanting; and the end of the Greek inscription is mutilated. This circumstance obviously renders a comparison of the three texts a work of greater difficulty than it would be if all the inscriptions were entire; but Dr. Young* observes, "the enchorial inscription, notwithstanding its deficiencies near the beginning, is still sufficiently perfect to allow us to compare its different parts with each other and with the Greek, by the same method that we should employ if it were entire. Thus if we examine the parts corresponding, in their relative situation, to two passages of the Greek inscription in which Alexander and Alexandria occur, we soon recognize two well-marked groups of characters resembling each other, which we may therefore consider as representing these names—a remark which was first made by M. de Sacy, in his letter relating to this inscription. A small group of characters occurring very often in almost every line, might be either some termination or some very common particle: it must therefore be reserved till it is found in some decisive situation, after some other words have been identified, and it will then easily be shown to mean *and*. The next remarkable collection of characters is repeated twenty-nine or thirty times in the enchorial inscription; and we find nothing that occurs so often in the Greek, except the word *king*, with its compounds, which is found about thirty-seven times. A fourth assemblage of characters is found fourteen times in the enchorial inscription, agreeing sufficiently well in frequency with the name of *Ptolemy*, which occurs eleven times in the Greek, and generally in passages corresponding to those of the enchorial text in their relative situation; and by a similar comparison, the name of Egypt is identified, although it occurs much more frequently in the enchorial inscription than in the Greek, which often substitutes for it country only, or omits it entirely. Having thus obtained a sufficient number of common points of subdivision, we may next proceed to write the Greek text over the enchorial, in such a manner that the passages ascertained may all coincide as nearly as possible; and it is obvious that the intermediate parts of each inscription will then stand very near to the corresponding passages of the other. In this process it will be necessary to observe that the lines of the enchorial inscription are written from right to left, as Herodotus tells us was the custom of the Egyptians." We have already shown in the chapter on papyrus that this remark of Herodotus is confirmed by an inspection of the Egyptian texts.

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* Supp. Encyc. Brit., article "Egypt."

The problem of which Dr. Young here attempts the solution, does not involve the necessity of knowing what are the sounds represented by the characters of the enchorial language. The problem is simply to determine what groups of enchorial characters correspond in signification to certain Greek words. If we were sure that the Greek is a faithful version of the enchorial, the problem within certain limits could be solved; though even then there would remain much error and still more uncertainty, which could only be removed by the discovery of other Egyptian texts similarly accompanied by a translation. Still, if the enchorial text were faithfully represented by the Greek, that which Dr. Young has indicated could be done with tolerable accuracy by any person who would take the necessary trouble. But it appears from the remarks of Dr. Young, that the Greek is not such a translation as can be an infallible guide under the circumstances. We may readily admit that the words *king* and *Ptolemy* are identified in the enchorial text, and for the reasons that Dr. Young gives: groups of characters which occur so often can be nothing else than what he has determined them to be. But as the *number* of times that these ascertained groups occur does not agree with the number of times that the corresponding words occur in the Greek text, it is clear that the value of the unknown characters between these ascertained groups is not with certainty to be deduced by the method followed by Dr. Young; at least not with that degree of certainty which precludes considerable error. Still the enchorial text was deciphered by Dr. Young in the way here pointed out, and no doubt the value of a great number of groups was accurately or proximately obtained. Before concluding this chapter we shall make a few more remarks on the enchorial characters.

Dr. Young having discovered the name of Ptolemy in the enchorial text, could not be long in discovering it in the hieroglyphic text, where it is enclosed in a kind of ring or cartouche, which in Egyptian inscriptions, as we now know, surrounds the proper names of kings. Indeed, this notion of the cartouches containing proper names, seems to have got some ground before Dr. Young read the name of Ptolemy in the hieroglyphic part of the Rosetta stone. Dr. Young accordingly determined the Phonetic *, *i. e.* the alphabetic value of the pictorial symbols composing the name of Ptolemy; which, according to him, were to be interpreted as follows: first, a *square* representing a P; a *semicircle* which represents T; a character like a *knot*, which the Doctor considered as not essentially necessary; a *lion couchant*, which represents LO or OLE; a character not unlike a pair of sugar-*tongs*, M; two figures, often called *feathers*, I or E, and a *vertical line bent* at its upper extremity, not unlike a crook, OSH or OS. "Putting all these elements together," says Dr. Young, "we have precisely PTOLEMAIOS, the Greek name; or perhaps PTOLEMEOS, as it would more naturally be called in Coptic."

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* The word Phonetic was first used by Zoëga, who had conjectured that several of the hieroglyphics must represent *sounds*. M. Champollion announces himself as the inventor of the term; but it is used by Zoëga (quoted by Klaproth) in his work on Obelisks (p. 454), published at Rome in 1797.

In a similar manner, Dr. Young determined pretty nearly the phonetic value of the pictorial symbols which represent the name of Berenice. To prevent any possible error, it is better to state this part also of the progress made in determining the phonetic values of certain symbols in Dr. Young's own words. "The wife of Ptolemy Soter, and mother of Philadelphus, was Berenice, whose name is found on a ceiling at Karnak, in the phrase 'Ptolemy and Berenice, the saviour-gods.' In this name we appear to have another specimen of syllabic and alphabetic writing combined, in a manner not extremely unlike the ludicrous mixtures of words and things with which children are sometimes amused. The first character of the hieroglyphic name is precisely of the same form with a *basket* represented at Bibân el Molouk, and called in the description, 'panier à deux anses,' and a basket in Coptic is BIR. The *oval* which resembles an eye without the pupil, means elsewhere 'to,' which in Coptic is E; the *waved line* is 'of,' and must be rendered N; the *feathers* I; the little *footstool* seems to be superfluous; the *goose* is KE or KEN. Kircher gives us *kenesoü* for a goose; but the *esoü* means gregarious, probably in contradistinction to the Egyptian sheldrake, and the simple etymon approaches to the name goose in many other languages*. We have therefore literally BIRENICE, or, if the N must be inserted, the accusative BIRENICEN, which may easily have been confounded by the Egyptians with the nominative. The final characters (a semicircle and an egg) are merely the feminine termination."

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* This remark of Dr. Young is a good sample of the manner in which Egyptian archæologists catch at straws to save them-

Such was the first rough attempt to determine the syllabic or alphabetic values represented by those pictorial symbols which we commonly call hieroglyphics. We call this the *first* attempt, because in our opinion it gave M. Champollion the hint, without which it is possible he might to the end of his days have persisted in the opinion which he expressed in his essay, entitled *De l'Ecriture Hiératique des Anciens Egyptiens*, Grenoble, 1812 *. This opinion is as follows:—

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selves from drowning. It is true that "*hansa*," a goose or swan, in Sanscrit; "χὴν," a goose, in Greek; "anser," in Latin; "gans" in German, are etymologically the same as "ken" in Coptic. But we know that the Coptic, as it now exists, is not a cognate language with the others here enumerated; and accidental coincidences of this kind are of no value. Besides, how do we know that the Coptic "ken" (if it exist) is not really a Greek word, of which the present Coptic contains a pretty large number?

[*] We have not seen this work, and only know it from J. Klaproth's Examen Critique des Travaux de feu M. Champollion, sur les Hiéroglyphes, Paris, 1832. Klaproth says in a note (p. 3.), "It is said that the author bought up all the copies that he could, &c.;" and he adds, "we may conjecture that the motive of M. Champollion in suppressing this book was, to avoid giving the public too exact a measure of the progress which he had made up to 1821, one year before his Lettre à M. Dacier. (Paris 1822, 8vo.) This measure is contained in the assertion 'that the hieroglyphics are signs of things and not signs of sounds.' Certainly a man who had worked at the hieroglyphics for ten years, without deciphering them, and who in 1821 printed such an axiom, had great need in his new researches of 1822, of the guidance of Dr. Young, who published his discoveries in December, 1819; in the 'Supplement to the Encyclopædia Britannica.'" It appears from the note that the date of the Grenoble essay is 1821, while

1. That the writing of Egyptian MS. of the second kind (the hieratic) is not *alphabetic.*

2. That this second system (of writing) is only a simple modification of the hieroglyphic system, and differs from it only in the form of the signs.

3. That the second kind (of writing) is the *hieratic* of the Greek authors, and must be considered as an *hieroglyphic tachygraphy.*

4. Lastly, that the hieratic characters (and consequently those from which they are derived) are *signs of things and not of sounds.*

Such appear to have been M. Champollion's opinions up to 1822, or a little earlier than that date. About this time Mr. W. Bankes published the Greek inscription on the obelisk of Philæ; and M. Letronne, in his remarks on the inscription, made the very natural and simple conjecture, that the monument might contain in hieroglyphics an inscription to the same effect as the Greek. In 1822 Mr. Bankes sent to the Academy of Inscriptions lithographed copies of the hieroglyphics which cover the four faces of the obelisk of Philæ, on the base of which is the Greek inscription already mentioned. M. Champollion had the lithographed copy of the hieroglyphics, which enabled him to determine the phonetic value of the nine symbols which represent the nine letters of the name Cleopatra. With the idea started by Zoëga, that some hieroglyphics might be phonetic, with the conjecture long entertained that cartouches might contain proper names, with the fact shown by Dr. Young, though not in a completely satisfactory

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in the text of Klaproth it is 1812 in one place, and 1821 (by implication) in another. This, however, does not much alter the state of the question. Dr. Young's remarks were published in 1819, in the Encyclopædia Britannica; and M. Champollion had not formed or did not publish his new ideas about the hieroglyphics till 1822, the date of his Lettre à M. Dacier.

way, in the case of the words Ptolemy and Berenice; and adding to this the great facilities which the word Cleopatra offered from containing two common letters (A), represented in both cases by the same symbol (a hawk), and from having exactly the same number of letters and symbols in the Greek form and the hieroglyphic text respectively, which was not the case in the words Ptolemy and Berenice; and further taking into the account M. Champollion's recorded opinion, after years of labour, that the hieroglyphics were not signs of *sounds*—with all these facts, there is only one conclusion, that M. Champollion has no claim of any kind as a *discoverer* of the phonetic value of Egyptian hieroglyphics. There is little doubt, we think we may say none, that up to the time of Dr. Young's discovery, M. Champollion was convinced, as he expresses himself, that the "hieroglyphics are signs of things and not of words." In his letter to M. Dacier* of September 22, 1822, on the contrary, he expressed himself in the commencement of his letter in the following manner:—"I may venture to hope that I have succeeded in showing that both the *hieratic* and *demotic* (enchorial) writing are not entirely alphabetical, as had been generally supposed, but often also *ideographic*, like the hieroglyphics themselves, that is to say, that they represent sometimes the *ideas* and sometimes the *sounds* of a language. I think I have at last succeeded, after ten years of assiduous research, in bringing together data almost complete on the general theory of these two kinds of writing, on the origin, the nature, the form, and the number of their signs, the rules of their combinations by means of those among these signs which have functions purely logical or grammatical, and in having thus laid the first foundation of what we may call the grammar and dictionary of these two modes of writing which are employed in the great number of monuments whose interpretation will throw so much light on the general history of Egypt." Not a word is here said of the Grenoble publication; nor does the author any where else in this letter make the slightest allusion, that we can find, to his former opinion on the nature of the hieroglyphics *. The author goes on to state, that the subject of this letter is the pure hieroglyphics, "which, forming an exception to the general nature of the signs of this kind of writing, were endowed with the power *of expressing the sounds* of words, and have been employed on the public monuments of Egypt in recording the *titles, names, and surnames of the Greek and Roman sovereigns*, who successively governed it. Many well-ascertained facts in the history of this celebrated country must necessarily arise from this new result of my researches, to which I have been led in a very natural way, &c., &c." The only mention of Dr. Young's labours on the phonetic values of the symbols is in a note †, where

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* Lettre à M. Dacier relative à l'alphabet des hiéroglyphes phonétiques employés par les Egyptiens pour inscrire sur leurs monumens les titres, les noms et les surnoms des souverains Grecs et Romains. At this date, therefore, it appears that M. Champollion had not satisfied himself, perhaps not even conjectured, that the system might be applied to deciphering the phonetic names of the Pharaohs.

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* In the first chapter of the *Précis*, &c. (published 1824), M. Champollion refers to his "*Mémoire sur l'Ecriture Hiératique, lu à l'Académie en* 1821." This can hardly be the Grenoble book; but still it may be. M. Champollion only refers to it in the *Précis* to correct Dr. Young's notions about the hieratic characters.

† This note is appended to the Letter as published in the second edition of the *Précis du Système Hiéroglyphique*, 1828. Whether it was appended to the Letter at the time of its publication in 1822, we do not know; but we presume and think it was.

M. Champollion, after pointing out the mistake of Dr. Young, as to the first symbol in the name Berenice, which the Doctor read *Bir*, observes, "still he has determined the phonetic value of four signs; the P, one of the forms of the T, one of the forms of the M, and that of I; but his entire syllabic alphabet, determined by two names only, was altogether inapplicable to the numerous proper names written on the monuments of Egypt." This may be quite true; but M. Champollion should have given a little more credit to the man whose rough attempt first pointed out what M. Champollion immediately embraced as the only true road to the discovery of the meaning of an hieroglyphic text. It will be observed, that in 1822, M. Champollion had not applied the phonetic system to any proper names except those of the Greek and Roman period.

M. Champollion was disturbed in the midst of his triumph by an article in the Quarterly Review (No. 55, Feb. 1823), a journal which he characterizes with some felicity of expression, as "éminemment Anglais." The writer of the article, admitting the truth of the results as stated in the *Lettre*, &c., claimed the priority of discovery for Dr. Young; who also speedily published a small volume entitled "Account of some recent Discoveries in Hieroglyphical Literature and Egyptian Antiquities; including the Author's Original Alphabet, as extended by M. Champollion. London, 1823, 8vo."

Dr. Young's work appears to us exceedingly ill written and confused. It also displays so much vanity mixed with bad taste, and so little judgment in the management of his case, that a reader may be assured he will lose nothing if he never opens the part that touches on the matter in dispute. His claims may safely rest on the article in the Supplement to the Encyclopædia Britannica. M. Champollion examines in the first chapter of his *Précis* (1824) the phonetic values assigned by himself and Dr. Young respectively to the hieroglyphics, composing the names of Ptolemy and Berenice. M. Champollion having devoted himself with much assiduity to the subject, after he was put on the right scent, was enabled to show that Dr. Young's notions as to several of the symbols were entirely wrong, and as to others inexact. He proved that the symbols were not syllabic but simply alphabetical; and he was enabled to announce with some distinctness the principle on which these foreign names were represented by phonetic hieroglyphics, which is this—"that the Egyptians transcribed proper names and foreign words by means of a real alphabet, of which each symbol was equivalent to a single vowel or a single consonant." That M. Champollion, then, following out Dr. Young's ideas, was very soon enabled to correct the Doctor's rough essays, and extend the phonetic alphabet to a great number of characters, cannot be denied.

M. Champollion, in the passage just cited, uses the words "a real alphabet,"—an expression to which at this stage of the inquiry objections might very reasonably be made.

It is well known that the Chinese have no alphabetic system of writing, and accordingly, when they wish to write a European proper name, they are compelled to have recourse to a contrivance which looks something like that of the Egyptians, but is not exactly the same. The Chinese characters, when thus employed, do not become alphabetic, but represent the entire syllable or sound which they express in ordinary use. Thus, if we suppose A, B, C, respectively, to stand in the place of three Chinese characters, the name *Maria* would be expressed as follows:—

A	Ma	Jasper.
B	li	profit.
C	ya	second in rank.

The Chinese symbols, when thus used, are enclosed in a cartouche very like those used in similar cases by the Egyptians *.

M. Champollion, prosecuting his investigations still further into the subject of the phonetic hieroglyphics, applied them to the reading of the names of private persons, Greeks or Romans, which occur on various monuments; for instance, on the Benevento obelisk, on which M. Champollion† reads the Roman name Lucilius. In such cases the characters which represent the name are not included in a cartouche, like those of kings; but are followed by "a hieroglyphic representing a man crouching down, with one arm upraised—a character which immediately follows all the proper names, hieroglyphically represented, of living persons, with the exception only of names of kings, which are sufficiently characterized by the cartouche. This hieroglyphic sign, which is sometimes placed also after simple prenomens or surnames, is a sign of speciality; its function accordingly is, not to indicate the nature of the characters which precede it, but the nature of the idea expressed, whether phonetically or ideographically, by these same characters."

Extending his views, M. Champollion applied his alphabet (Précis, chap. v.) to the reading of groups of hieroglyphics which represent common names, verbs, and adjectives, and to the establishing of this position, that "the characters or groups of characters which in the hieroglyphic texts express genders, numbers, persons, tenses, &c., are only the phonetic signs of the letters or the words, which in the Egyptian or Coptic language perform the same functions." He adds, "It will then be demonstrated, as it seems to me, that the *signs of sounds*, if not the first, were at least the most numerous of the elements which compose every Egyptian inscription in sacred characters." The theory as thus announced is simply this—that an hieroglyphic text is nothing more than the Coptic language as now known to us, written in phonetic hieroglyphics, instead of the ordinary Coptic characters *. If, then, the value of each phonetic hieroglyphic can be determined, the student has nothing more to do than to write the phonetic hieroglyphics in Roman or (what M. Champollion prefers) Coptic characters, and to translate the passage thus transcribed as he would translate a Coptic text. This conclusion will perhaps seem somewhat premature in the fifth chapter of the work, the author having demonstrated, as he believes, in the fourth chapter, that "the signs recognized as phonetic in the proper names preserve this phonetic value in all the hieroglyphic texts where they occur, and nothing more." He has not demonstrated that the Coptic language is the same as the antient language of Egypt, as supposed to be used in these hieroglyphical texts, some of which texts are further supposed to have been written as much as 1,500 or 2000 years before the Christian æra; he has not demonstrated that the Coptic language, which is evidently a half-barbarous jargon, containing many Egyptian, some Hebrew, and Arabic, and numerous Greek words, is the same as the antient language of the Pharaohs; nor is it yet proved that the Coptic, which we possess in no other form than Christian rituals and translations of the Old and New Testament, can furnish terms necessary for the explanation of the antient customs and mythology of Egypt. Such considerations as these certainly make it difficult to acquiesce at once in the assumption contained in the words "Egyptian or Coptic." The Hindustani or Bengâlî dialects would prove but an inadequate source for explaining the texts of the Ramayana, and the Vedas, if the knowledge of the Sanscrit language were lost; and yet the Hindustani and Bengâlî are spoken languages, of which the Sanscrit is the groundwork. Of the Bengâlî it is remarked, that "the refined system of grammatical inflexions, which constitutes so prominent a characteristic of the Sanscrit language, has in Bengâlî almost entirely disappeared; and the want of terminations marking the cases and numbers of the noun, or the persons and tenses of the verb, is supplied by particles and other auxiliary words, often rather clumsily subjoined (hardly ever prefixed) to the mutilated stems of Sanscrit words*."

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* Klaproth's Examen, &c. p. 25.

† Précis, chap. iii.

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* That there is no mistake in this representation of the author's system, is clear from what he says in another place, p. 361:—"La langue Copte, laquelle est l'ancien Egyptien écrit en lettres Grecques."

The Coptic has ceased to be a spoken language: its grammar and dictionaries are still very incomplete; and the meaning of many words in it is, to say the least, very doubtful. Further than this, the Coptic language is only known to us through the medium of an alphabet, which, with the exception of about five or six letters out of the thirty-two, is borrowed from the Greek. This antient language has not even an alphabet of its own. It may be asked,—why, when the Old and New Testament were translated into the Coptic language, supposed to be the Egyptian,—why was the Greek alphabet used? Was the translation made for the use of Greeks or Egyptians? If for the Egyptians, why give it them in Greek characters, unless perchance the Egyptians had no characters of their own that could be adapted? But it seems most likely that the translation was made for the use of the Greeks: a translation from any language into another would hardly be made in the characters belonging to the language translated *from* (always supposing that the language translated *into* had alphabetic characters of its own), unless the translation were designed for the use of those to whom the characters were familiar. If it was made for the Copts, we must presume their language had no alphabet suitable for the purpose, and that the Greek was used of necessity. And yet even the hieroglyphic system of writing was used as late as the second century of the Christian æra (see Appendix on the Inscription of Balbillus, and the enchorial writing also undoubtedly to a still later date). But whatever was the reason for representing the Coptic text in Greek characters, we may be sure that no language was ever yet clothed in a foreign alphabet without suffering something by the change of dress. Since M. Champollion's system has been developed in all its extent, both he and others who have adopted it have translated numerous hieroglyphic texts in conformity with the principles supposed to be established. The phonetic or alphabetical value of each symbol is first ascertained; the whole is then transcribed into Coptic characters, and translated with the aid of a Coptic dictionary and grammar. The following is a specimen of the mode of translation.

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* Penny Cyclopædia, article "Bengâlî."

In Rosellini (M. C. Pl. xxxv.) we have a representation of men gathering flax, with certain hieroglyphics over them. There are in all nine figures plucking the flax, besides two others apparently intended to be represented binding it into sheaves, which we infer partly from their attitude, which is not altogether decisive, and partly from bundles of flax being represented near them; and a twelfth person, who may be an overseer. The hieroglyphics placed over these figures are divided into five compartments by means of vertical bars corresponding to the straight stroke or ruled line, which we sometimes see separating different columns of writing in the papyri. Each of these compartments except one, where it is probably accidentally omitted, contains the representation of a bundle of flax—a pure pictorial sign that cannot be mistaken. Three of the compartments also contain a figure of a man bending a little, with something like a rod in his hand, slightly irregular in its form. This clearly represents one of the men in the attitude of pulling up the flax, and is also a pictorial sign. The other signs appear to be purely conventional, except perhaps the figure of an arm, which occurs in all the compartments and is placed next to the flax, except in that where the bundle of flax is omitted, accidentally, as we have conjectured. In all the five compartments there are the following symbols the same—a bundle of flax (wanting in one compartment), an arm, an owl, and the common symbol (phonetically equivalent to *h*), which bears some resemblance to a twisted rope. In three instances these symbols are read from left to right, and in two, from right to left, or to speak more correctly, on the supposition of our not knowing which way they are to be read—in two cases, they run in one direction, and in three cases, in the opposite direction; but in all the cases they run, or seem to run, in the direction of the face of the person over which they immediately stand. After this preliminary explanation, the interpretation of Rosellini will probably be understood even by those who have not the opportunity of seeing the drawings. The first compartment that he explains is the following, consisting of twisted rope, man with rod, twisted rope; owl, arm with hand; and he takes them in the order here mentioned. As we have just observed, the figures in this compartment seem at first sight to run in the contrary order, but these symbols are not very stubborn, and may be often read not merely either backwards or forwards, but also, within certain limits, in almost any order. The twisted rope represents the letter *h*, which, when followed by the determinative character *man with rod*, signifies in Coptic *hi*, which verb here means to *pull up:* the three symbols which follow, represent respectively *h*, *m*, *a*, and thus form the word *hma*. This word *hma* is followed by another picture of a bundle of flax. "From all this," says the author, "it will be easy to conclude that *hma* means *flax*, when accompanied by this determinative sign: but without being satisfied with this deduction, though it is quite a just one, we have a positive and certain proof in the Egyptian version of Exodus (ix. 31), where, in two instances, the Hebrew word which signifies flax is changed into the Egyptian word *mahi*. And it is clear that this is our hieroglyphic word *hma*, which in later times underwent a metathesis, such as occurs in many other similar words. Therefore, we find expressed in this part of the inscription, *hi* (*n pi*) *hma* or *mahi*, 'the pulling up of the flax.' And it is observable that this inscription is repeated three times in this picture, but only over the men, who are actually engaged in pulling up the stalks." On this we may observe, that the bundle of flax which is to determine the meaning of the signs, read *hma* by Rosellini, expresses, according to this explanation, all that we want to know, and the word *kma* is quite unnecessary. Also the man with the rod or stick, if placed next to the bundle of flax, would exactly express what is thus laboriously worked out by our author, if the symbols representing (according to him) *kma*, were entirely left out. In our opinion, the interpretation is both false and ridiculous. It is a language of symbols, partly pictorial, partly purely arbitrary; but still such as to those who were taught it would be intelligible. The symbols here are not the representatives of given determinate sounds, that is, are not the representatives of language properly so called; but of certain complex ideas. Thus the arm and hand, in connexion with the bundle of flax, may indicate the act of grasping and holding the flax. What the owl indicates we cannot conjecture, not being initiated in the mysteries of this hidden science.

M. Champollion (Précis, chaps. vi. vii. viii. ix.) proceeds to apply his system to the hieroglyphic names of Egyptian gods, to Egyptian names of private persons, and to the reading of the titles and names of the old Egyptian kings on the obelisks and the oldest monuments of Egypt. His tenth chapter contains a summary and recapitulation of all that precedes it, with some additional developments.

The author's conclusion as to the nature of what is commonly called hieroglyphical writing is this:—"The Egyptians possessing three different modes of expressing their ideas, employed in the same text that mode which seemed best adapted to the representation of a given idea. If the object of an idea could not be clearly indicated either by the direct mode of a *figurative* (pictorial) character, or tropically (indirectly) by a *symbolical* character, the writer had recourse to *phonetic* characters, which readily accomplished either the direct or indirect representations of the idea, by the conventional mode of exhibiting the word which is the sign of this idea. Consequently the series of phonetic characters was the most efficient and the most common part of the Egyptian system of writing; by them particularly the most metaphysical ideas, the most delicate shades of language, the inflexions, and, finally, all grammatical forms, could be represented with almost as much perspicuity as they are by means of the simple alphabet of the Phœnicians or Arabs.

"It follows from all that has been said, and is indubitably proved,—

"1. That there was no Egyptian writing altogether *representative* (pictorial), as the Mexican has been supposed to be.

"2. That there does not exist on the monuments of Egypt any regular writing altogether *ideographic*, that is, composed altogether of figurative and symbolical characters.

"3. That primitive Egypt did not employ a mode of writing altogether *phonetic*.

"4. But that the *hieroglyphic* mode of writing is a complex system—a system, *figurative*, *symbolical*, and *phonetic*, in the same text, in the same phrase, I would almost say in the same word."

If the assertion in No. 4 is true, in its full extent, no man in his senses will ever trouble himself about deciphering an hieroglyphic text.

Before we make a few remarks on this system, it is proper to give the substance of the celebrated passage of Clemens* of Alexandria, which M. Champollion relies upon as confirming his system.

Translation.

"Those who are instructed among the Egyptians first of all learn that kind of Egyptian writing which is called *epistolographic*; next, the *hieratic*, which the sacred registrars use; and, last of all, the *hieroglyphic*. Of the *hieroglyphic* there are two kinds; one of which expresses its meaning by the first elements (letters)*; and the other is *symbolic*. Of the *symbolic*, one part expresses its meaning by *imitation*; a second part, as it were, *tropically*; and the third is purely *allegorical*, expressed by a kind of *enigmas*. Accordingly, when they wish to represent the sun, they make a circle; for the moon they make a crescent, the form of the object indicating the meaning. In the *tropical*† mode of representation, following a certain analogy in the transfer and the change, they use the symbols, modifying some, and in many ways altering others; consequently, when they record the praises of their kings in sacred mythi, they express them in *anaglyphs*. Of the third or *enigmatical* mode of representation the following will serve as examples: they indicate the rest of the stars (planets), on account of the obliquity of their course, by serpents; but the sun is indicated by a beetle."

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* Stromata v. The passage is inserted in the *Précis*, with the translation and judicious remarks of M. Letronne.

The following table, drawn up by M. Letronne, may be useful, as showing the different modes of writing indicated by this passage, and the accordance of Clemens with other antient authorities.

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* ἡ μὲν ἐστι διὰ τῶν πρώτων στοιχείων κυριολογική.

† τροπικῶς δὲ κατ᾽ οἰκειότητα μετάγοντες καὶ μετατιθέντες, τὰ δ᾽ ἐξαλλάττοντες, τὰ δὲ πολλαχῶς μετασχηματίζοντες χαράττουσιν. The meaning of this is very obscure.

- Egyptian writing, divided by Herodotus, Diodorus, and the Rosetta stone, into two kinds of characters.
  - Common.
    - Demotic (δημοτικά), Herodotus; δημώδη, Diodorus.
    - Enchorial (ἐγχώρια), on the Rosetta stone.
    - Epistolographic (ἐπιστολογραφικά) Clemens of Alexandria.
  - Sacred.
    - *a.* Hieratic, or priest-writing, which may be called hierographic.
    - *b.* Hieroglyphics, according to Clemens, consisting of
      - 1. Characters, *Kyriologic*, "by the first *letters.*"
      - 2. *Symbolic*, comprising
        - 1. *Kyriologic*, by imitation.
        - 2. *Tropical**, or metaphorical.
        - 3. *Enigmatic.*

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* The tropical mode, as appears from the passage, is expressed by anaglyphs, the precise meaning of which term we do not know.

In the passage already translated, Clemens says nothing of the epistolographic and hieratic modes of writing: he limits his remarks to the hieroglyphic. And all that he says of the phonetic hieroglyphic is contained in these words: "that it expresses its meaning by the first elements,"—a phrase obscure enough, and wrapped in a mist which no learning or ingenuity can altogether dispel. M. Letronne has amply proved* (though for scholars no proof was necessary) that the word στοιχεῖον (stoicheion), which properly signifies any elementary principle in a thing, can also signify the constituent parts of words or a letter of the alphabet; and he contends that, in this passage of Clemens, the word (στοιχεῖα) means "letters of the alphabet;" which may be true. But what is meant "by the *first* letters?" Those who are eager to jump to conclusions may reply, that the author means the first letters of the words, in conformity with the doctrine laid down by M. Champollion, which doctrine is this†:—"A sound or an articulation may have as its sign, the representation of a physical object, the name of which, in the spoken language, begins with the sound or the articulation which it is intended to express. Consequently a consonant or a vowel may be represented by the images of a number of different objects, with this restriction only, that the ordinary names of these objects must have for their initial sound, in the spoken language, this *same* sound or articulation. We have in fact already shown, that the articulation R is represented in the names of Roman emperors written in hieroglyphics, sometimes by a *mouth* (rô), sometimes by a *tear* (rmeiê), and in other cases by that of the flower of a *pomegranate* (roman or rman)."

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* It would be enough to refer to Plutarch's question—*τίς αἰτία δι' ἣν τὸ Ἄλφα προτέτακται τῶν στοιχείων.* Sympos. Probl. ix. 2.

† Précis, p. 363.

At first sight, the words of Clemens might appear to confirm the doctrine of M. Champollion ; but M. Letronne has very properly rejected this interpretation. Clemens does not say, "the first letters of each word," and it is impossible to fix this meaning to his text. It may be asked, then, what does he mean ? Our opinion is, that it is impossible to say, for we cannot acquiesce in the interpretation finally adopted by M. Letronne, and we have no other to offer. M. Letronne thinks that the words "first letters" mean the *primitive sounds*, that is to say, the most elementary and simple sounds of the alphabet, for which alone in the early stage of alphabetical writing signs would be required. A single sign would represent B, V, P, Ph; one sign would do for G, K, Kh, &c.; and the signs of the vowels would be still less determinate. Clemens, then, when he speaks of the *first letters*, must refer to the alphabet in its primitive simplicity.

He considers that M. Champollion's alphabet agrees perfectly with this interpretation of the passage of Clemens, for this phonetic alphabet expresses only the following sounds :—

B	
Γ—K	M
Δ—Τ—Θ	N
Λ—Ρ	Π—Φ Σ
Aspirates	H, X, SCH,
Combined sounds . . .	D—J
Vowels	A—O E—I

"This phonetic alphabet then presents itself to us under the appearance of a *primitive alphabet* * reduced to the *elementary sounds*, with the addition of the signs of *aspiration* inherent in the Egyptian language, and which must have been invented very early."

This seems a very odd kind of primitive alphabet: it looks more like a complete one. An alphabet which has distinctive marks for B, P, &c., and signs for SCH and J (like j in *judge*) is a perfected and not a simple alphabet. Besides, M. Champollion's alphabet contains phonetic signs for all (we believe) of the thirty-two letters composing the Coptic alphabet; consequently his phonetic alphabet does not represent a primitive alphabet such as M. Letronne has imagined, and the whole interpretation of the "first letters" of Clemens falls to the ground, so far as it rests for support on M. Champollion's alphabet.

There is a passage in Plutarch (Sympos. Probl. ix. 3.) which has often been referred to as an auxiliary proof in favour of the phonetic system:—"The god Hermes is said to have invented letters in Egypt, whence the Egyptians *write the first of the letters an Ibis*, since this bird belongs to Hermes." The words in italics are literally translated that the reader may judge what they mean. M. Letronne translates —"wherefore to represent the first letter (of their alphabet) the Egyptians draw an Ibis." If we adopt M. Letronne's interpretation, an Ibis is the peculiar, and we might add, the *sole* representative of the first letter, otherwise there would seem no great propriety in the reason given by Plutarch. "It is," adds M. Letronne, "worthy of notice, that in the (phonetic) alphabet drawn up, independent † of this passage, the letter A is in fact represented by a bird, a hawk, duck, or ibis. This is too important a matter for me to omit remarking upon."

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* The words in italics are so marked by M. Letronne.

† Was M. Champollion, then, unacquainted with the passage till M. Letronne pointed it out?

The phonetic alphabet seems to show too much: the A ought to be represented by an ibis only, to make the passage of Plutarch accord with the phonetic alphabet, and not by a hawk, duck, or ibis. Besides this, the goose or duck (see Champollion's phonetic alphabet) represents S.

Zoëga, from studying the obelisks and other Egyptian monuments in Italy, made out a list of 958 different hieroglyphics—an estimate which M. Champollion considers, and apparently with good reason, as too large. Champollion adds that* the examination of the hieroglyphic texts shows, that this system of writing does not contain so great a number of elements as we might suppose from a superficial examination. "The fragment of the hieroglyphic text of the Rosetta stone proves this: the fourteen lines, more or less mutilated, of which it consists, correspond nearly to eighteen entire lines of the Greek text, which, reckoning twenty-seven words for each line (the mean of ten lines), would form 486 words; and the ideas expressed by these 486 Greek words are expressed in the hieroglyphic text by 1,419 signs; and among this great number of signs, there are only 166 of a different form (only 166 varieties), even including in the calculation several characters which are only unions (*ligatures*) of two simple signs.

"This calculation, then, shows that the number of hieroglyphic characters is not so great as is generally supposed; and it seems to prove further (as we may remark by the way), that each hieroglyphic did not by itself express an *idea*, since there was need of 1,419 hieroglyphic signs to represent only 486

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* Page 315.

Greek words, or 486 Greek words to express the ideas indicated by these 1,419 signs."

Not being quite sure to how much of the Greek text the fourteen lines of the hieroglyphic text correspond, we prefer making the comparison in another way. Though the Rosetta stone is mutilated, it is not difficult to make out the number of lines of which the hieroglyphic text consisted: we believe that in its entire state there were about twenty lines; we will say twenty-one, but we think this is over the mark. These twenty-one lines will then contain, according to M. Champollion's calculation, about 2,218 separate signs. The Greek text consisted, when entire, of fifty-four lines, which on an average contain about 135 signs or letters, making in the whole 7,290 signs or letters. If, then, the Greek is a translation of the hieroglyphic text, and if the hieroglyphic text is nearly altogether phonetic, it appears that the Coptic language (for the hieroglyphic text is assumed by M. Champollion to represent the Coptic language) can express as much as the Greek, in less than one-third of the number of the characters. That this is not true any body may convince himself, by comparing the Coptic version of the New Testament with the original Greek.

Perhaps, then, the Greek is not a translation of the hieroglyphic text, but expresses only generally the same substantial meaning. This opinion we are inclined to adopt. If it be a translation, a much greater number of the signs in the hieroglyphic text must be pictorial and symbolical than M. Champollion will allow. He recognized the following characters in the hieroglyphic text of the Rosetta stone as purely figurative (pictorial) :—*temple*, *image*, (wooden) *statue* (*ξόανον*), *child*, *asp*, *column*, which, as he remarks, are represented very faithfully in the hieroglyphic text. The hieroglyphic text concludes with a group of characters preceded by the name and and title of Ptolemy, which themselves are preceded by another group of ten characters that have already occurred in the sixth line. The end of the Greek inscription is mutilated certainly, but there does not appear any indication of its containing the name of Ptolemy, nor any thing which corresponds to something already stated in the early part of the Greek text. A comparison of the Greek and hieroglyphic texts will satisfy any person, that one is not a *translation* of the other; and perhaps most persons may be inclined to stop here: but we venture to go further, and to say that we believe the language represented by the hieroglyphic text is not Coptic; and we do not believe that the signs are signs of letters. If they are not signs of letters, they must be signs of things (pictures) and signs of ideas (things incapable of direct representation)—provided the hieroglyphic text has a meaning, which we have no doubt that it has.

All spoken language consists of articulate sounds forming words, and a certain arrangement of those words is required, by which the meaning of a series of words is mainly governed and determined. In some languages, such as the Greek, Latin, &c., the words themselves are susceptible of many modifications, such as signs of number, case, time, &c., by which, combined with the law of arrangement, words arranged in a sentence indicate not only their several meanings, but their relations to one another, and thus language is rendered capable of expressing all the various combinations of ideas which depend on the operations of the mind. Some languages have few of these signs of relation *, as they have been

* See Becker's German Grammar.

aptly termed, and the meaning of any series of words, either spoken or written, must consequently depend *mainly* on the order of the words. This is the case with the English language, the separate words of which are susceptible of very few modifications of form, adapted to the purpose of expressing *relation*. The relation of the words to one another is therefore expressed by the order of the words, and by a number of little words, such as prepositions, &c. Thus many expressions in English consist of a series of words of very simple forms, which can only express a meaning by the mutual position in which they stand to one another, being (as a general rule) determinate and unchanged. Such expressions as—"open the book;" "shut the door," which are by usage well understood to signify a command addressed to somebody "to open a book," and "to shut a door," might just as well convey the following meanings respectively: "the book *is* open;" "the door *is* shut. The same order of words, "open the book," "shut the door," might in Greek, without any violence, signify respectively, "open (particip.) *is* the book;" "shut (particip.) *is* the door." The English language thus often approaches to the Chinese, a language which has no grammar strictly so called. In the Chinese language, the words appear in their crude or general forms, without indications of case, tense, &c., and it is on the order of the words that the meaning of a sentence mainly depends*.

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* La langue Chinoise emploie tous les mots dans l'état où ils indiquent l'idée qu'ils expriment, abstraction faite de tout rapport grammatical. Tous les mots Chinois, quoique enchaînés dans une phrase, sont en *statu absoluto*, et ressemblent par-là aux radicaux de la langue Sanscrite.—Lettre à M. Abel Rémusat, sur le Génie de la langue Chinoise, par M. G. De Humboldt, p. 16. See also p. 19, on the order of words in the Chinese.

As we know nothing of the language which the hieroglyphics represent, we do not know whether that language was rich in grammatical inflections, like the Sanscrit and the Greek, or whether it had few or none, like the English and Chinese. If the language possessed numerous grammatical inflections, it is not easy to see how it could be represented without something equivalent to an alphabet, unless the mode of representation was exceedingly imperfect: if the language was poor in grammatical inflections, we have no difficulty in supposing that a mode of representing ideas, partly pictorial, partly purely conventional, might be effected in a rough way without much trouble. In addition to the symbols which were purely pictorial, there would be others adopted to express words of relation, which would not, however, represent single *letters*, but *entire words**. With this aid, combined with the order or arrangement of the symbols, which would be the governing principle of their connection and relation, we can conceive it not difficult to represent such a language as our own, for instance, by means of symbols, the same as or similar to those used in the hieroglyphic texts.

We make these remarks to show that it does not follow, because the hieroglyphic part of the Rosetta stone may not be phonetic, that it cannot therefore express, by means of signs pictorial and symbolical, what a spoken language expresses, that is, a series of consecutive ideas.

The enchorial part of the Rosetta inscription consists of thirty-two lines, and there is little doubt that it is mainly alphabetic, perhaps in part syllabic. The reader who is curious as to the analysis of this language may consult an ingenious paper on the enchorial language of Egypt, in the third Number of the Dublin University Review. The writer of this article denies that either the hieroglyphic or enchorial texts represent the Coptic language. "We believe," he says, "that in the time of the Ptolemies, and long before it, two distinct languages were used in Egypt; one of which we find in the first part of the Rosetta inscription, and wherever else hieroglyphics are used; the other of which we find in the second part of the Rosetta inscription, and in the contracts on papyrus. These are not dialectic variations of a common language, like the Sahidic and Bashmuric varieties of the Coptic, but radically distinct, totally differing in their grammatical construction. It is probable, indeed, that the enchorial borrowed a good deal from the hieroglyphic language, and it may have lent it some words in return. There were thus words which were common to both languages; but we cannot infer from this that the languages were identical."

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* Our & (and) may serve as an example.

We shall conclude these observations with one remark on the following passage from M. Champollion's Précis, p. 359:—"It must then have become equally easy, convenient, and even natural, to represent such or such a sound by the image of a physical object to which the sound to be represented had a closer relation than to any other in the spoken language; and this object was attained, when the Egyptian had conceived and ascertained the possibility of representing indirectly, or rather recalling the recollection of each sound of his language by the image of material objects, of which the oral sign or word which expressed them in the Egyptian language *contained in the first line the sound which it was intended to represent*." This hypothesis involves the fact of the sounds of words having been already analysed, and, when this was done, it was just as easy to make arbitrary alphabetic signs as to use pictures in the place of them; and much more convenient. An alphabetic language is simply a representation by signs of the elementary sounds which enter into words, and this analysis of sounds seems to us to contain all the difficulty. When once a man had observed that the parts of all articulate sounds were resolvable, it was an easy step to discover that the number of signs required to represent such sounds need not be many; and it would be equally easy to make such signs. It is true that no language has any thing like a complete alphabet, except perhaps the Sanscrit; the less merit and the less difficulty would there then be in constructing a rude alphabet, such for instance as that which we and most of the nations of Europe still use. The phonetic system of M. Champollion appears, according to him, on the oldest Egyptian monuments; and this system involves of necessity the notion of the resolution of the sounds of words into their elements. The real difficulty of alphabetical writing, then, was overcome at a very early date, if there is any truth in the antiquity and the extensive applicability of the phonetic system.

Note.—The size of this volume does not allow us to enter further into this discussion, nor to make some remarks, as we had intended, on Klaproth's Examen Critique, already referred to, and Seyffarth's Beytraege zur Kenntniss der Literatur, Kunst Mythologie, &c., des alten Aegypten, (2, 3, 4, 5, heft,) Leipzig, 1833.

APPENDIX.

OBELISKS.

ONE of the obelisks of Luxor, described in vol. i. p. 63, has been brought to Paris since the publication of that volume. A ship* was constructed at Toulon expressly for the transport of the obelisk, and placed under the command of M. Verninac. The direction of the operations necessary for removing the obelisk was given to M. Lebas, a pupil of the Polytechnic School, and a naval engineer. The vessel left Toulon in March, 1831, and arrived at Luxor in the heat of the summer.

The first operation of the French on their arrival was to clear the lower part of the obelisks, which was buried to a considerable depth. Both the obelisks are in a state of perfect preservation: the larger is about 82 English feet high, and the other about 336 feet shorter. To conceal this difference, the smaller obelisk had been placed on a higher pedestal than the other, and somewhat in advance of it. Three vertical rows of hieroglyphics cover the faces of both obelisks: the middle row is cut nearly six inches deep; the two others are scarcely cut into the stone. "This difference in the sculpture varies the reflection and the shadows." The pedestal which was uncovered by the French contains on the N. E. and S.W. faces, respectively, four cynocephali, which have on the chest the cartouche that is considered to contain the name of Ramesses.

It is, perhaps, correctly remarked by M. Delaborde, that the difference in the size of the two obelisks may have arisen from the difficulty of finding two blocks of granite of the same dimensions without flaw.

The smaller of the two obelisks was selected by the French as being in a better state of preservation and also lighter than the other; and yet the smaller is calculated by M. Lebas to weigh about 246 tons English. The obelisk was lowered by very simple means, consisting of an anchor firmly fixed in the ground, a long beam of wood, and a few ropes and pulleys. The whole obelisk remained suspended for two minutes, during the operation of lowering it, at an angle of 32 degrees*. It was taken down and safely conveyed to Paris, but it is not yet re-erected. This operation, it is remarked, cannot be attended with any great difficulty, since M. de Montverrand, a French architect, has raised a granite column at St. Petersburg, which is a single block about 96 feet high, and weighs three times as much as the obelisk of Luxor.

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* *Précis des opérations relatives au transport d'un de ces monumens dans la capitale; lu à la séance publique de l'Institut, du 3 Août* 1832, *par* M. Alexandre Delaborde.

Mr. W. J. Baukes' obelisk, which was removed from Philæ by Belzoni in 1819, (see vol. i. p. 305,) is now erected at Kingston Hall, Dorset. The material is a red Egyptian granite. The following are the dimensions:—

	Ft.	In.
Height of the three plinths, in one block	2	10
,, lower member of the pedestal	3	4
,, upper ditto (the whole pedestal is one block)	2	5
,, Shaft (in one block)	22	1¼
Total	30	8½
Lowest plinth (square)	12	9
Upper ditto	8	10½
Lower member of pedestal......................	3	5½
Upper ditto	3	1
Bottom of shaft	2	2
Top of ditto	1	5¾

This obelisk contains three Greek inscriptions on the pedestal: the first two inscriptions are only painted in red letters upon the surface; the lowest is cut into the stone†.

Greek Inscription found in front of the Great Sphinx.

Αγαθη τυχηι

1. επει Νερων Κλαυδιος Καισαρ Σεβαστος
2. Γερμανικος αυτοκρατωρ ὁ αγαθος δαιμων της
3. οἰκουμενης συν ἁπασιν οἱς ευεργετησεν αγα-

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* See a view of the operation of lowering the obelisk in Wilkinson's *Topography of Thebes*, 1835.

† See M. Cailliaud's copy of the Greek inscription, and M. Letronne's remarks on it, in his *Recherches pour servir à l'Histoire de l'Egypte pendant la Domination des Grecs et des Romains*, &c. Paris, 1823.

4. ϑοις την Αιγυπτον την εναργεστατην προνοι-
5. αν ποιησαμενος επεμψεν ἡμειν Τιβεριον Κλαυδι-
6. ον Βαλβιλλον ἡγεμονα δια δε τας τουτου χα-
7. ριτας και ευεργεσιας πλημυρους ἁπασιν αγαϑοις ἡ
8. Αιγυπτος τας του Νειλου δωρεας απαυξομε-
9. νας κατ' ετος ϑεωρουσα νυν μαλλον απελαυ-
10. σε της δικαιας αναβασεως του ϑεου εδοξε
11. τοις απο κωμης Βουσειρεως Λητοπολει-
12. του παροικουσι ταις πυραμισι και τοις εν αυτω
13. καταγεινομενοισι τοπογραμματευσι και κω-
14. μογραμματευσι ψηφισασθαι και αναϑειναι
15. στηλην λιϑινην παρα   αρ
16. αι Αρμαχει εκ των ενκεχαρισμενων αγαθ-
17. ων   την προς αυτου ευεργεσιαν
18. εξ ὡν επισ?
19. Αιγυπτον καλοκαι?
20. ζει γαρ τας ισοϑεου εαυτου χαριτας ενι στηλει
21. ζωμενας τοις ἱεροις γραμμασιν αιωνι μνημο-
22. νευεσθαι παντι παραγινομενος γαρ ἡμων
23. εις τον νομον και προσκυνησας τον ἡλιον
24. Αρμαχιμ εποπτην και σωτηρα τη τε των πυρα-
25. μιδων μεγαϑειοτητι και ὑπερουσια τερφϑεις
26. ϑεησαμενος τε πλειστης ψαμμου δια το μηκος
27. του   γραμματα πρωτος

Translation of the Inscription to T. Claudius Balbillus.

TO GOOD FORTUNE.

"Since Nero Claudius Cæsar Augustus Germanicus, Autocrat, the good deity of the world, in addition to all the favours he has shown to Egypt, has demonstrated his care for the country most manifestly by sending to us Tiberius Claudius Balbillus as governor, and through his favours and acts of kindness abounding in all good things, Egypt seeing the gifts of the Nile yearly increasing now more (than ever) enjoys the proper rising of the deity (*i.e.* the river), It has been determined by the inhabitants of the village of Busiris in the nome of Letopolis, who live near the Pyramids, and the local clerks or collectors, and the village collectors in it, to vote and dedicate a stele of stone (15).

"(20.) Preserves? his godlike favours on a stele living in sacred characters to be remembered for ever, for having come to our nome, and having adored the Sun Armachis inspector and saviour, and with the magnitude of the Pyramids and their surpassingness delighted, &c."

The rest hardly makes any sense in the present state of the inscription. The inscription in its complete state contained thirty-five or thirty-six lines, including the two words at the head.

This inscription records the merits of Balbillus, who, as we learn from Tacitus (*Annal.* xiii. 22.) and Seneca (*Nat. Quæst.* iv. 2.), was appointed governor of Egypt by Nero about A. D. 56. Seneca quotes him as an upright and learned man. (See also vol. i. p. 264.)

Though the inscription is now so damaged from l. 15 to l. 19 inclusive that the words cannot be restored, the meaning of this part seems to be, that it was determined to set up the stele or stone slab with the inscription on it close by the Armachis, which must mean the great Sphinx, afterwards in this inscription called the Sun. It appears also that the inscription was in sacred characters, no doubt to the same purport as this Greek inscription, which may be considered as a duplicate.

The inscription of Balbillus, considering its importance, requires a few more remarks. It first appeared in the *Quarterly Review*, as we have already stated, but not in a very correct form. M. Letronne, however, endeavoured to restore the deficient parts as well as he was able by means of this copy (see *Journal des Savans*, 1821); but having received a second and more accurate transcript from Colonel Leake, he undertook a new edition of the inscription, which appeared in his *Recherches pour servir*, &c. p. 392. By the aid of Colonel Leake's copy he considers that he has completely restored the first twenty lines. That his restorations, in some cases, are contrary to the real reading of the stone will appear by comparing his inscription with our copy, which contains every letter that is now legible. Our copy was made about three years ago; Colonel Leake's was made much earlier, which circumstance will account for some few letters appearing in his copy which we could not see. The stone, in several places, is evidently undergoing disintegration. To the end of line 17, inclusive, we have given only the variations between M. Letronne's text and ours; from line 18, inclusive, we have given M. Letronne's text entire.

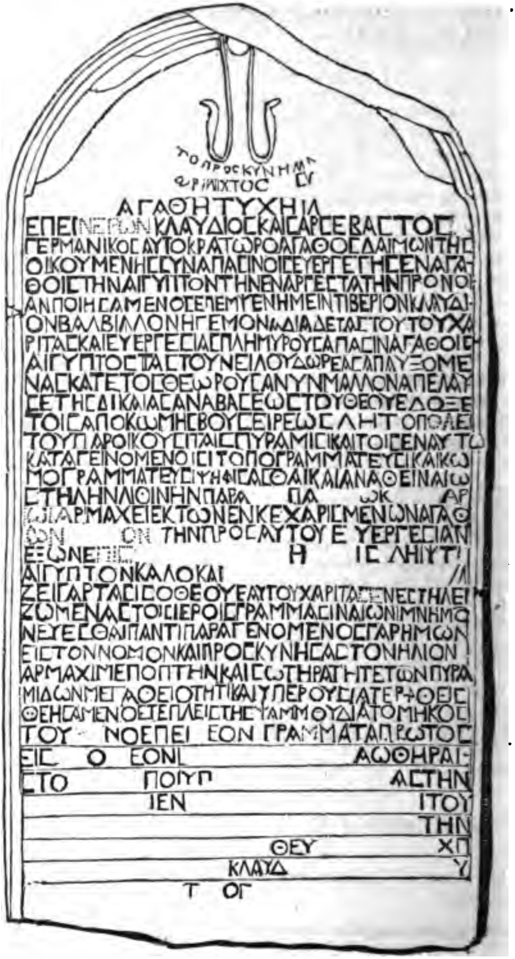
M. Letronne's *Texte restitué.*

1. .... (Νερων)* ....
3. .... ευεργετησεις ...... (a misprint)
5. ...... (επεμ)ψεν ....
6. .... (τας) τουτου (χα)
7. .... πλημμυρουσα πασιν ..... (ἡ)
8. .... επαυξομενας
10. (σ)ι ....

* Νερων is very faint, but it is not obliterated.

11. ... . Λητο(πολει)
12. .... (εν α)υτ(η)
13. καταγεινομενοις ....
14. .... ψ(ηφισ)ασθαι κ(αι αν)αθειναι
15. .... αρ omitted
16. .... αρμαχει εκ των ενκεχαρα(γμ)εν[αν] α ...
17. .... εν την (πρ)ος αὐτο(υς ε)υεργεσιαν
18. εξ ἀρχης ευ(μενὲιαν Νερωνὸς και την πρ)ος ὁλην τ(ην)
19. Αιγυπτον καλοκα(γαθιαν παντες γνωρισωσι. Δογματι)
20. ζει γαρ τας ισοθεους αυτο(υ επι)νο(ιας, εν) στηλει (δεδη)
21. λωμενας τοις ἱεροις γραμμασιν, αιωνι μνημο
22. νευεσθ(αι παντι). Παραγινομενος γαρ ἡμω[ν φροντισας]
23. εις τον νομον, και προσκυνησας τον ἡλιον (των π)
24. αρ ημιν εποπτην και σωτηρα τ[η τ]ε των πυ(ραμ)
25. ι(δω)ν με(γαλ) ειοτητι και ὑπερφυϊα τερφθεις, (και πε)
26. ο (τεθε)αμενος (της π)λειστης

The copy which we have made of this inscription was made before we had seen either the *Quarterly Review* or M. Letronne's restored copy, and may therefore be taken as an independent transcript. It will appear, from comparing our fac-simile with M. Letronne's text, that in some cases he has made restorations, as if there were lacunæ in certain parts of the stone, where, in fact, there are no lacunæ; and he has made additions where the space on the stone clearly allows none. For instance, after στηλει, (l. 20,) there is no room for δεδη, which M. Letronne has inserted; besides, the first letter of the next line is ζ, not λ. After ἡμων, l. 22, he has inserted φροντισας, which injures the sense, and is altogether inadmissible. There is no hiatus between ἡμων and εις. In the case of ὑπερουσίᾳ, M. Letronne conjectured, though he did not adopt, the true reading. His text also contains a few letters which we cannot now satisfactorily make out, and does not contain some which appeared to us a few years ago to be perfectly legible. As to the restoration of those parts where the writing is now entirely effaced, though we admit that they are ingenious, there is no reason for supposing that they represent the antient text.



ΤΟ ΠΡΟϹΚΥΝΗΜΑ
ΦΡΙΜΙΧΤΟϹ ΕΥ

ΑΓΑΘΗ ΤΥΧΗΙ Λ
ΕΠΕΙΝΕΡΩΝΚΛΑΥΔΙΟϹΚΑΙϹΑΡϹΕΒΑϹΤΟϹ
ΓΕΡΜΑΝΙΚΟϹΑΥΤΟΚΡΑΤΩΡΟΑΓΑΘΟϹΔΑΙΜΩΝΤΗϹ
ΟΙΚΟΥΜΕΝΗϹϹΥΝΑΠΑϹΙΝΟΙϹΕΥΕΡΓΕΤΗϹΕΝΑΓΑ-
ΘΟΙϹΤΗΝΑΙΓΥΠΤΟΝΤΗΝΕΝΑΡΓΕϹΤΑΤΗΝΠΡΟΝΟΙ-
ΑΝΠΟΙΗϹΑΜΕΝΟϹΕΠΕΜΨΕΝΗΜΕΙΝΤΙΒΕΡΙΟΝΚΛΑΥΔΙ-
ΟΝΒΑΛΒΙΛΛΟΝΗΓΕΜΟΝΑΔΙΑΔΕΤΑϹΤΟΥΤΟΥΧΑ
ΡΙΤΑϹΚΑΙΕΥΕΡΓΕϹΙΑϹΠΛΗΜΥΡΟΥϹΑΠΑϹΙΝΑΓΑΘΟΙϹΗ
ΑΙΓΥΠΤΟϹΤΑϹΤΟΥΝΕΙΛΟΥΔΩΡΕΑϹΑΠΛΥΞΟΜΕ
ΝΑϹΚΑΤΕΤΟϹΘΕΩΡΟΥϹΑΝΥΝΜΑΛΛΟΝΑΠΕΛΑΥ
ϹΕΤΗϹΔΙΚΑΙΑϹΑΝΑΒΑϹΕΩϹΤΟΥΘΕΟΥΕΔΟΞΕ
ΤΟΙϹΑΠΟΚΩΜΗϹΒΟΥϹΕΙΡΕΩϹΛΗΤ ΟΠΟΛΕΙ
ΤΟΥϹΠΑΡΟΙΚΟΥϹΙΤΑΙϹΠΥΡΑΜΙϹΙΚΑΙΤΟΙϹΕΝΑΥΤΩ
ΚΑΤΑΓΕΙΝΟΜΕΝΟΙϹΙΤΟΠΟΓΡΑΜΜΑΤΕΥϹΙΚΑΙΚΩ
ΜΟΓΡΑΜΜΑΤΕΥϹΙΨΗΦΙϹΑϹΘΑΙΚΑΙΑΝΑΘΕΙΝΑΙΩ
ϹΤΗΛΗΝΛΙΘΙΝΗΝΠΑΡΑ ΠΑ ΩΚ ΑΡ
ΩΙΑΡΜΑΧΕΙΕΚΤΩΝΕΝΚΕΧΑΡΙϹΜΕΝΩΝΑΓΑΘ
ΩΝ ΟΝ ΤΗΝΠΡΟϹΑΥΤΟΥΕ ΥΕΡΓΕϹΙΑΝ
ΕΞΩΝΕΠΙϹ Η ΙϹ ΛΗΙΥΤ
ΑΙΓΥΠΤΟΝΚΑΛΟΚΑΙ Λ
ΖΕΙΓΑΡΤΑϹΙϹΟΘΕΟΥϹΑΥΤΟΥΧΑΡΙΤΑϹΕΝΕϹΤΗΛΕΙ
ΖΩΜΕΝΑϹΤΟΙϹΙΕΡΟΙϹΓΡΑΜΜΑϹΙΝΑΙΩΝΙΜΝΗΜΟ
ΝΕΥΕϹΘΑΙΠΑΝΤΙΠΑΡΑΓΕΝΟΜΕΝΟϹΓΑΡΗΜΩΝ
ΕΙϹΤΟΝΝΟΜΟΝΚΑΙΠΡΟϹΚΥΝΗϹΑϹΤΟΝΗΛΙΟΝ
ΑΡΜΑΧΙΜΕΠΟΠΤΗΝΚΑΙϹΩΤΗΡΑΤΗΤΕΤΩΝΠΥΡΑ
ΜΙΔΩΝΜΕΓΑΘΕΙΟΤΗΤΙΚΑΙΥΠΕΡΟΥϹΙΑΤΕΡΦΘΕΙϹ
ΘΕΗϹΑΜΕΝΟϹΤΕΠΛΕΙϹΤΗϹΨΑΜΜΟΥΔΙΑΤΟΜΗΚΟϹ
ΤΟΥ ΝΟΕΠΕΙ ΕΟΝ ΓΡΑΜΜΑΤΑΠΡΩΤΟϹ
ΕΙϹ Ο ΕΟΝ ΑΩΘΗΡΑΙ-
ϹΤΟ ΠΟΙΥΠ ΑϹΤΗΝ
ΙΕΝ ΙΤΟΥ
ΤΗΝ
ΘΕΥ ΧΠ
ΚΛΑΥΔ Υ
Τ ΟΓ

Another inscription found near the same spot, and now in the Museum, is as follows:—

Αγαθη τυχη
L S Αντωνεινου
και Ουηρου των
κυριων αυτοκρατορων
ηγε . . υοντος Φλ
Τιτιανου επιστρατηγουν
τος Λουκκηιου Οφελλιανε
στρατηγουντος του νο
μου Θεωνος απο
κατιστησεν τα τι
χη επαγαθω
Παχων $\overline{\text{I E}}$

Translation.

TO GOOD FORTUNE.

"In the sixth year of Antoninus and Verus, the sovereign autocrats, Flavius Titianus being governor, and Lucceius Ofellianus commander-in-chief, and Theon being general of the nome, he restored the walls with good intent. Pachon 15."

"The walls here alluded to were uncovered by Caviglia, and appear to have been intended to inclose the Sphinx. The edifices on which the inscriptions appeared were on two elevated platforms, on the outside of the altar, and directly in front of the animal, accessible by two flights of steps. The wall was of brick, but cased on the interior side with stone. Mr. Salt supposes that, from the commanding position of the two edifices above mentioned, they were intended as stations for the Roman emperors or the prefects to view the solemn rites performed in the temple and at the altar in front of the Sphinx."—*Quarterly Review*, vol. xix. p. 415.

This inscription belongs to the reign of Marcus Aurelius, often called Antoninus, and his colleague L. Verus. The joint reign began A. D. 161. Verus died in 169.

Greek Papyrus of Mr. Grey, from the Original in the British Museum.

The numerals indicate the lines which correspond to those of the original.

1. Αντιγραφον συγγραφης Αιγυπτιας περι νεκρων εν Θυν γινομενης
2. κατα δυ
3. ετους λς αθυρ]κ μετα τα κοινα ταδε λεγει χ...... υτης

4. των δουλων ειδος της μεγαλης Οννωφρη ωρου μητρος
5. σενποηρις ως [μ] ευπετεσιος μελανχρως κοιλοφθαλμος
6. αναφαλαντος ωρωι ωρου μητρος σενποηρις ηυδοκησας με
7. της τιμης του ημισους του τριτου της λογειας των κειμενων
8. νεκρων εν Θυναβουνουν εν τη λιβυη του περιθηβας
9. εν τοις μεμνονειοις ομοιως και του ημισους του τριτου λειτουργιων
10. και των αλλων ων τα ονοματα | μουθις σποτουτος συν
11. τεκνοις και παντων χαποχρατης νεχθμανθου συν τεκνοις
12. και παντων αρσιησις νεχθμανθου ομοιως πετεμεστους
13. νεχθμανθου ωσαυτως αρσιησις ζμινιος ομοιως
14. οσορωηρις ωρου ομοιως σποτους χαποχωνσιος ωσαυτως
15. ζωγλυφος . . αφ ων επιβαλλει ασωτι ωρου μητρος σενποηρις
16. τωι νεωτερου σου αδελφωι των αυτων χοαχυτων το ημισυ
17. του προειρημένου τριτου μερους λειτουργιων και καρπειων και
18. των αλλων απεδοτο αυτωι εν τωι λς —— αθυρ επι βασιλεως
19. αιωνοβιου εις πληρωσιν του τριτου και του ημισους καρπειών
20. και των αλλων νεκρων εν Θυ. παντευτημει συν τεκνοις και
21. παντων και ημισους καρπειων επιβαλλοντων μοι εν τοις
22. πετεχωνσιος γαλακτοφορου και τοπου ασιητος καλουμενο
23. φρεκαγης συν των εν αυτωι νεκρων αφ ων επιβαλλει
24. τωι αυτωι ασωτι το ημισυ απεδομην αυτωι σα εισιν
25. και εχω αυτων παρα σου την τιμην κουθεν σοι εγκαλω
26. περι αυτων απο της ημερον εαν δε τις σοι επελθηι
27. περι αυτων αποστησω αυτον εαν δε μη αποστησωι
28. αποστησω επαναγκον εγραψεν ωρος ο φαβιτος παρα των
29. ιερεων του αμονρασωνθηρ και των συνναων θεων μονο
30. γραφος μαρτυρες ερευς φανρεους πετεαρτρης παντευτημιος
31. πετεαρποχρατης ωρου σναχομνευς πετευριος σναχομης
32. ψενχωνσιος τοτοης φιβιος πορτις απολλωνιου ζμινις
33. πετεμεστουτος πετευτημις αρσιησιος αμονορυτιος
34. πακημιος ωρος χιμναραυτος αρμηνις ζθεναητιος
35. μαντις μιρσιος αντιμαχος αντιγενους πετοφωις φιβιος πανας ⁝τ
    ριος μαρτυρες |ς

36. αντιγραφον πτωματος ετους λς χοιαχ θ̄ τ επι την εν διος ☉
τραπεζαν εφ ης λυσιμαχος κετχ̃ κατα διαγραφην ασκληπιαδου
και ζμινιος τελωνων εφ ην υπογρ πτολεμαιος αντιγρ ωρος ωρου
χοαχυτης ο π των λογειομενων δι αυτων χαριν των κειμενων
νεκρων εν Θυναβουνουν εν τοις μεμνονειοις της λιβυης
της περιθ ταφοις ανθ ης ποιουνται λειτουργιας α εωνησατο
παρα οννωφριος του ωρου χαλκου ζ̱γ τ- ττ
λυσιμαχ υγρ̄.

Notes.

5. It is not certain that the word is *ευπετεσιος*, as Dr. Young reads it; he translates it "lively." But the word is hardly a possible Greek word, and could scarcely have this meaning if it

were. It seems more like εντετεως (εντετηνεως): but this would give no satisfactory meaning.

— Dr. Young reads μεγας μελιχρως, but this is certainly a mistake. All that is distinctly visible is με and χρως, and the papyrus here is slightly divided by a rent, which just leaves space enough to make up the word μελαγχρως, but not μεγας and μελιχρως. In confirmation of μελαγχρως, it may be observed that the papyrus of Anastasy has μελαγχρως in line 6.

6. Young reads νυδεκνσα ασμενως, and translates "has ceded voluntarily." But the words are νυδεκησας με, the last part of νυδεκησας being obscure, but no letters follow με. This part is very doubtful.

16. Dr. Young reads χολχυτων, which he interprets "dressers," and derives from a Coptic word, *dcholk*, to "dress," "to put on." There is little doubt that the word is χοαχυτων.

27. αποστησω clearly. Dr. Young has ὑποστησω.

The Registry is obscure. Some words are made out by a comparison with the Greek enrolment or register which is under the enchorial text, though this register is on the whole less legible than that attached to the Greek copy of the deed.

The enchorial text of this deed was copied by Dr. Young, whose transcript is now in the British Museum. On this transcript he has also made a fac-simile of the Greek enrolment, which, in the original document, appears beneath the enchorial text.

Ετους λς χοια χθ τετλκτμ επι την εν διοσπολει . . . . τραπεζαν εφ ἧς λυσιμαχος εικοστην εγκυκλιου κατα διαγραφην ασκληπιαδου και ζμινιος τελωνων εφ ἣν ὑπογραψε πτολεμαιος αντιγραφον ωρος ωρου χοαχυτης π: των λογειομενων δι' αυτων χαριν των κειμενων νεκρων εν τοις μεμνονειοις της λιβυης . . . . ταφοις

From Dr. Hogg's Papyrus. (See p. 281, vol. ii.)

Ψαλμὸς ις	Variations. G = Grabe.
1. Προσευχὴ τοῦ Δαυίδ.	1.
εἰσάκουσον Κύριε τῆς δικαιοσύνης μου·	τῆς om. G.
πρόσχες τῆς δεήσεώς μου·	τῇ δεήσει G.
ἐνώτισαι τῆς προσευχῆς μου, οὐκ ἐν χείλεσι δολίοις.	τὴν προσευχὴν G.
2. ἐκ προσώπου σου τὸ κρῖμά μου ἐξέλθοι·	2. σου G. εὐθύτητας G., μου in marg.
οἱ ὀφθαλμοί μου ἰδέτωσαν εὐθύτητα,	
3. ἐδοκίμασας τὴν καρδιά(ν) μου καὶ ἐπεσκέψω νυκτός·	3. καὶ om. G.
ἐπύρωσάς με καὶ οὐκ εὗρες ἐν ἐμοὶ ἀδικίαν.	οὐχ εὑρέθη . . ἀδικία G

4. ὅπως ἂν μὴ λαλῆσαν τὸ στόμα μου τὰ ἔργα τῶν ἀνθρώπων,	4. λαλήσῃ G.
διὰ τοὺς λόγους τῶν χειλέων σου ἐγὼ ἐφύλαξα ὁδοὺς σκληράς.	
5. κατήρτισα τὰ διαβήματά μου ἐν ταῖς τρίβοις σου,	5. κατάρτισαι G
ἵνα μὴ σαλευθῇ τὰ διαβήματά μου.	σαλευθῶσι G.
6. ἐγὼ ἐκέκραξα, ὅτι εἰσήκουσάς μου ὁ Θεός: κλῖνον τὸ οὖς σου ἐμοὶ, καὶ εἰσάκουσον τῶν ῥημάτων μου.	6. ἐπήκουσας G., εἰσήκουσε in marg.
7. θαυμάστωσαν τὰ ἐλέη σου ὁ σώζων τού(ς) ἐλπίζοντας ἐπὶ σε·	7. θαυμάστωσον G.
ἐκ τῶν ἀνθεστηκότων ῥῦσαί με τῇ δεξίᾳ σου.	ῥῦσαί με om. G.
8. φύλαξόν με ὡς κόρην ὀφθαλμοῦ· ἐν σκέπῃ τῶν πτερύγων σου σκεπάσεις με,	
9. ἀπὸ προσώπου ἀσεβῶν τῶν ταλαιπωρησάντων με. οἱ ἐχθροί μου τὴν ψυχήν μου περίεσχον.	9. ἀσεβοῦς G. marg.
10. τὸ στέαρ αὐτῶν συνέκλεισαν, τὸ στόμα αὐτῶν ἐλάλησεν ὑπερηφανίαν.	
11. ἐκβάλλοντές με νυνί περιεκύκλωσάν με, τοὺς ὀφθαλμοὺς αὐτῶν ἔθεντο ἐκκλῖναι ἐν τῇ γῇ.	
12. ὑπέβαλόν με ὡς εἰ λέων ἕτοιμος εἰς θήραν, καὶ ὡς εἰ σκύμνος οἰκῶν ἐν ἀποκρύφοις.	12. ὑπέλαβον G.
13. ἀνάστηθι Κύριε, πρόφθασεν αὐτοὺς καὶ ὑποσκέλεισον αὐτούς· ῥῦσαι τὴν ψυχήν μου ἀπὸ ἀσεβοῦς.	13. ὑποσκέλισον G.
14. ῥομφαίαν ἐχθρῶν ἀπὸ τῆς χειρός σου Κύριε ἀπολαύων ἀπὸ γῆς διαμέρισον αὐτοὺς ἐν τῇ ζωῇ αὐτῶν.	14. ῥομφαίᾳ (ῥομφαίαν marg.) σου, ἀπὸ ἐχθρῶν τῆς χ. G. Κὺριε, ἀπὸ ὀλίγων ἀπὸ γῆς. G.
15. καὶ τῶν κεκρυμμένων σου ἐμπλησθήτω ἡ γαστὴρ αὐτῶν·	15. ἐπλήσθη G.
ἐχορτάσθησαν ὑῶν καὶ ἀφῆκαν τὰ κατάλοιπα τοῖς νηπίοις αὐτῶν.	υἱῶν G.
16. ἐγὼ δὲ ἐν δικαιοσύνῃ ὀφθήσομαι τῷ προσώπῳ σου·	16.
χορτασθήσομαι ἐν τῷ ὀφθήσομαι τὴν δόξαν σου	ὀφθῆναί μοι τὴν.

Note, verse 13. ῥῦσαι τὴν ψυχήν μου ἀπὸ ἀσεβοῦς
ῥομφαίᾳ σου, ἀπὸ, &c. Grabe.

In the origiual the accents are sometimes marked, but more generally omitted.

INDEX.

A.

ABDALLATIF, an Arab physician, wrote on Egypt in 12th century, spent some time in Egypt, i. 47; translation of his work by De Sacy quoted concerning Memphis, i. 33; Arabs traded in mummies in time of, ii. 143; his account of a child found preserved in honey, ii. 144; his veracity proved by modern travellers, ii. 165; went short way into the great pyramid, ii. 227.

Abousambul. (*See* Ipsambul.)

Abousir, tombs or catacombs of, described; well known to Abdallatif in 12th century; visited by P. Lucas, ii. 164, 165.

Adytum (*see* Holy Recess), no apartment at Luxor corresponding exactly to an, i. 85; entrance of, in shorter side or end, i. 88; roof of, at Carnak, painted with clusters of gilt stars on blue ground, i. 92; at Ipsambul, contains sitting statue cut in the rock, i. 135; placed in most retired part, near extremity of building, with single entrance and thick walls, i. 142; at Derri, contains on its walls procession of the holy ship, i. 136, 137; same at Essaboua, i. 143; at Mount Barkal, contains sculptures of Isis and Ammon, i. 162; statue of Ptolemy V. decreed by the priests to be put in every, ii. 343; names of Philip, Alexander, and Berenice in hieroglyphics in Adytum at Carnak, i. 94. (*See* Ceiling.)

Agatharchides, a Greek writer in time of Ptolemy Philometor, fragment of, on the Red Sea, i. 12; his description of antient mode of working gold mines in Egypt, ii. 321; Diodorus and Pliny derived their accounts from his work, ii. 323.

Ainschems (fountain of the sun), name of Heliopolis, i. 47.

Alabaster quarries, site of, discovered by Messrs. Burton and Wilkinson, ii. 330.

Alexander, caused new order of things in Egypt, i. 34; portrait-painting common about the epoch of, ii. 79; name of, in hieroglyphics, at Luxor, i. 87; occurs twice at Carnak, i. 65; facts of the funeral of; his body conveyed from Babylon to Egypt in splendid car, described by Diodorus; magnificent temenos erected for it by Ptolemy at Alexandria; remaining there in time of Strabo; visited by Augustus, ii, 136, 138; tradition of his tomb at Alexandria in time of French occupation of Egypt, ii. 139; testimony of Leo Africanus concerning it, ii. 140.

Alexandria, once contained many objects of curiosity, i. 37; is the remains of a Greek city mingled with Mohammedan buildings; is within the physical boundaries of the Libyan desert; Pompey's Pillar; catacombs; obelisks; desolate aspect of, i. 42; view of catacombs of, by Luigi Mayer, i. 203.

Alphabet, phonetic, discussion concerning Champollion's, as supported by the passage of Clemens, ii. 364 to 366; definition of alphabetic language, ii. 372; passage from Plutarch, stating first letter was represented by an Ibis, ii. 366, 367.

Altar, description of, before figure in Museum, ii. 41; description of one at Mount Baskal, i. 161; description of specimens in Museum of what are called altars; have a striking resemblance to the canopus; supposed to represent persons in attitudes of penance, ii. 27; description of block of red granite with beautifully polished sculptures, improperly called an, ii. 34; was brought from Carnak by Belzoni, ii. 36.

Amasis, King, large monolith conveyed by, from Elephantine to Sais, i. 32.

Amenoph III., portrait of, ii. 80; name of, on seated colossus at Thebes, and in Museum, ii. 81.

Amenophis, same as Greek Memnon, i. 31.

Ammianus Marcellinus, quoted concerning Thebes, i. 33.

Ammon (*see* Oracle, Ram, Deity), considered by Greek writers as Jupiter of Egypt; cause assigned by Herodotus for having ram's head, ii. 295; the god of Thebes, same as Zeus and Jupiter; great temple of, at Thebes, was that of Carnak, i. 95; represented with ram's head, seated in holy ship at Carnak, i. 219; females devoted to service of, ii. 87; horned serpents sacred to, ii. 315; sculptured figure of, at Naga, with two lion-heads, rams' horns, and four arms; the only instance in Egypt of the Indian combinations, i. 171; symbolical form of, traced in remotest Nubian monuments; description of temple of, at Naga, i. 169; figures of, at temple of Soleb, in Upper Nubia, i. 153; in Adytum, of Mount Barkal, i. 162.

Ammonian worship, origin of, in Ethiopia, i. 172; that carried from Meroe down the Nile was simpler and purer than the monstrous combinations that arose below Syene; symbol of Ammon with ram's head, and procession of sacred ship, repeated on monuments throughout Nubia and Egypt, is evidence of same form of religion extending along the Nile, i. 176.

Ammonium, the antient, the original seat of the oracle of Jupiter Ammon, i. 173.

Anatomy, unknown to Egyptian artists; equally unknown to the Greeks; they were not accustomed to dissect in time of Galen, ii. 2; marble statue in tomb at Thebes, with veins strongly marked; a statue having leg-bones strongly marked, ii. 5.

Animals, executed by Egypian artists better than men; more freedom exhibited than in deified human form, ii. 8.

Animals, sacred, all said to have been represented in tomb of Osymandyas; detailed description of all those on monuments in Museum, ii. 288, et seq.; remark upon extent and difficulty of an examination of the origin of animal worship in Egypt, ii. 286, et seq.; no satisfactory explanation obtainable; all embalmed probably sacred; all sacred, were not embalmed; some embalmed, are not found on monuments; bull and cow, representing Osiris and Isis, were universally venerated; goat, ram, crocodile, and others, were local deities; each Nome had its inferior deities besides the ones superior and universal, ii. 289; Greek mythology similar to Egyptian in symbolical use of animals as representatives of deity, ii. 310; curious account of, in India, ii. 291; man intentionally killing one was put to death, ii. 300.

Anklets on female figures, in painting, ii. 86.

Antinoe, built by Adrian; ruins of, show magnificence of design, i. 37.

Antinous, description of two statues at Rome, said to be of, ii. 24; temples and medals in honour of, ii. 25.

Apis. (*See* Bull.)

Apollo, Pythian, curious statue of, described by Diodorus, i. 380.

Apostles, figures of the, in Egyptian temples, i. 38.

Arabat, the antient Abydos; hieroglyphic inscription discovered at, called Genealogical Table of Abydos, i. 57, 58.

Arabia Petræa, deserts of, contain remains of Egyptian buildings, i. 129.

Arch, Belzoni contends it was known to antient Egyptians; his instance of true brick arches, in the tombs of Gournou, i. 207, 208; supposed not to have been used by the Greeks till after Alexander; instances of chiselled arches, without key-stone, at Mycenae; in roof of excavations of Beni Hassan, and in rock-hewn temples of India, i. 209; found regularly constructed with key-stone in Ethiopia, at pyramid of Assour and Jebel Barkal, i. 210; difficult to form satisfactory conclusion concerning knowledge of, in India, i. 207; form of, well known to Hindoos; example in excavation of Salsette; not employed in India for bridges, i. 204; instances of, with key-stone, in Nubian pyramids; early knowledge of scientific construction of, ii. 251; reference to Mr. Wilkinson's work for evidence of antiquity of, ii. 252.

Architecture, Egyptian, origin of, to be sought for in excavations of solid rock; two original types of, the pyramid and excavation, i. 202; three great epochs in history of, i. 130; unbroken chain of similar forms of, characterise all buildings of Nile valley, i. 156; monuments of Egypt ought to be viewed in connection with localities of the country; want of taste in modern appropriation of, i. 149, 150; many monuments of Grecian, erected in Egypt by Ptolemies and Cæsars, i. 37; Egyptians fastened stones in building with copper and pins of sycamore, i. 365, 366.

Architecture, Indian, no evidence at all of its origin in rock excavations, i. 202; quite impossible to come to any safe conclusion concerning, from drawings made only for picturesque effect, i. 204. (*See* India.)

Architecture, Greek, resemblance of, to Egyptian, i. 108; existence of, in Ethiopia, during and after dominion of Plotemies, accounted for, i. 175; opinion of Gau concerning intermixture of, with Egyptian; this combination distinctly visible in several monuments of Philae; only two or three existing buildings in Egypt, in pure Greek style, i. 147, 148; Egyptians copied nature in their architectural art, i. 106.

Archives, written, of the priests in temples of Thebes, i. 23.

Arms, of antient Egyptian statutes, hang straight down, ii. 20; of standing colossi, sometimes crossed on breast, i. 273; of mummies, no invariable rule for position of; found differently placed, ii. 113; of male mummies, crossed on breast; of female, extending at sides, ii. 99.

Arms (of war), difference between Egyptian and those of the enemy, represented on temple of Luxor, i. 388; and on other buildings, i. 392.

Arrow-headed characters of Persepolis found in the Delta, i. 34.

Arsinoe, Egyptian painting of, having likeness to her medal, ii. 89.

Arts, nearly all we know of Egyptian, owing to religious sentiment of Egyptians in preserving their dead, ii. 96; resemblance of Grecian and Egyptian, undeniable, ii. 7; Hindoo and

Egyptian, neither was borrowed of the other, i. 202; greatest works of Egyptian, probably belong to epoch of Sesostris, 1500 B.C. i. 31; of Egypt, in reign of Solomon, at least equal to those of Tyre, i. 21; many represented on antient paintings, ii. 336; monuments of Egyptian, adorned antient Rome and Constantinople; several capitals of Europe enriched with spoils of; temple at Bebek el Hadjar, one of the most wonderful works of, i. 43; Egypt, possessing abundant and durable materials for writing, must have made considerable progress in, ii. 261; remarks on extent of the inquiry concerning Egyptian; working of metals and manufacture of glass indicate high state of all the useful; remarks on the colouring materials of paintings; oxides of metals and art of gilding were well known, ii. 320, 321; disposition and execution of great battle-scene on Propylon at Luxor, i. 385; high state of, in Egypt, indicated by beautiful models of ornamented chairs and couches, ii. 65; and by beautiful dress of a female figure in a painting, ii. 86; impossible to separate Grecian, from associations with Egypt, i. 373 (*see* Samos); progress of architecture in Nubia, i. 141, 142; Indian and Egyptian, similar in excessive minuteness of detail, and profusion of ornament, i, 384; oldest age of, easily distinguished from that of the Ptolemaic and Roman, i. 397.

Artists, Egyptian, probably employed by Solomon, i. 21; Greek, enabled by gymnastic exercises to study development of muscles, ii. 4.

Ashmounein, Hermopolis the Great, portico of, described, an architrave of one stone 26½ feet in length, i. 55.

Ass, representation of, carrying flax; appears often in Egyptian paintings, ii. 195; embalmed head of, never found in tombs, ii. 166.

Assouan, the ancient Syene, cataracts or rapids of, i. 6.

Assur, description of pyramids of, ii. 248 to 251.

Assyrian monarchs, their terrible devastations of Egypt described by the Hebrew prophets, i. 40.

Astronomy, no evidence of any progress in, among antient Egyptians; remarks on this subject, ii. 340, 341.

Athletic sports of antient Egypt, representations of, ii. 4.

Augustus, built at Rome temple to Serapis and Isis, ii. 24; his visit to the body of Alexander, ii. 138.

Avenues, of Sphinxes, leading to temples of Carnak and Luxor, i. 214. (*See* Sphinxes.)

B.

Babylon, temple of Belus at, a pyramidal building, ii. 255; town of, in Egypt, was built by Babylonians, i. 49; in time of Strabo, was a Roman military station, i. 51.

Bacchic rites. (*See* Orphic.)

Bahr Youssouf, Joseph's Canal, description of, i. 7, 53; thirty miles long; reference to Herodotus, Strabo, and Ritter, i. 54.

Bardaque. (*See* Quolleh.)

Barley, represented in a painting, ii. 67.

Bats, flock of, in tomb of Thebes, put out candles of explorers, ii. 168; passage in Belzoni's great tomb choked up with dung of, ii. 172.

Battle-scenes, description of, admirably pictured on temple of Luxor, 1500 figures, i. 385 to 389; similar on other buildings, i. 390; pictures representing wars with Asiatic tribes are common, i. 392; at Ipsambul, similar to those at Thebes, i. 399; detailed description of sea-fight, represented at Medinet Abou; is one of the most curious of historical sculptures; represents a fight with an Indian race, i. 390 to 392.

Bauer, Mr., his microscopic observations on mummy-cloth, proving it to be always linen, ii. 188.

Beard, natural, of Egyptians, was shaved close; rectangular figure of, attached to the chin, was artificial; the symbol of manhood, ii. 81; whether this was worn, or only placed on statues to indicate the sex; appears to be attached to the chin by bands, of a piece with head-dress, ii. 82; supposed by Belzoni to be an artificial covering for the beard, which was worn in this case; like hair in the pigtail, i. 253, 288; appropriate to clothed figures; symbol of manhood; and of sun in summer solstice; found only on statues appropriated to those of Osiris and Horus; the four forms in which Osiris appears with it, i. 254, 255; indications on head in Museum of genuine beard; very unusual in Egyptian statues, i. 287; curved at end, often occurs in paintings and on mummy-cases, ii. 153; four Jews represented with long, ii. 174.

Beasts, few figures of, seen by Belzoni in Egypt, i. 75.

Beauty, want of, among antient Egyptians, alleged by Winkelmann as cause of their stiff and ugly sculptures; great diversity of opinion about, ii. 1, 2.

Bebek el Hadjar, or Beibeth, ruins of magnificent temple at; is the Atarbechis of Herodotus, and Aphroditopolis of Strabo, i. 43, 44.

Beibeth. (*See* Bebek.)

Belzoni, a careful oberver, ii. 47; his account of his operations in Egypt is a most valuable supplement to previous decriptions, i. 2; passages in his work difficult to comprehend, i. 3; his description of temple of Ipsambul, i. 131; of temple of Edfou, i. 74; of an extraordinary inundation of the Nile, i. 13.

Beni Hassan, grottoes of, painted walls and hieroglyphic tablets, i. 56.

Berenice, Panchrysos, a town near the gold mines, i. 12.

Biban El Molouk. (*See* Tombs.)

Biers, representation of mummies borne on; horses never employed in drawing, ii. 156, 157.

Birds, represented in a spirited manner, ii. 8; embalmed in jars in tombs of Abousir, ii. 164; found often with feathers on, ii. 165.

Birket el Keroun, the antient Moeris, great natural lake, i. 7; its water saltish, i. 53.

Black men appear sometimes in paintings, ii. 46.

Boats, Egyptian, very interesting paintings of, in Rosellini; propelled by oars and sails; description by Herodotus of their construction; painted several colours; mode of fixing the rudder, ii. 90, 91; description of the mast; sails divided into small squares, coloured red, white, blue; representation of, in Museum, ii. 92, 93; two immense, sculptured at Carnak, 45 and 51 feet long, i. 90; of cedar wood, dedicated by Sesostris to Ammon, 420 feet long, gilt and silver, i. 95.

Boatmen, a distinct set of people; a superstitious race; piety and fears of, were probably the origin of the religious edifices on the islands of Philae and Elephantine; pay adoration to temples as they pass along the Nile; formed distinct caste in antient Egypt, i. 145; represented fighting, when boats have run foul of each other, ii. 93.

Bohlen, Professor, his work on antient India, i. 3.

Books, Egyptian, a number of, represented in tomb of Osymandyas, i. 240; are all lost (if ever there were any), ii. 318.

Bowerbank, Mr., remarks of, on mummy-cloth, ii. 190, 191.

Bracelets, blue and red, on a male figure in a painting, ii. 65; on arms and wrists of mummies, ii. 120; pair on each arm of wife of Ramses, ii. 85.

Brain, in some recently examined mummies, found carefully extracted; interior of skull being uninjured; in other instances found remaining; description of its appearance, ii. 106;

when extracted, an aromatic powder found in the skull, ii. 107 (*See* Mummies.)

Brass, vessels of, bought of Arabs by Belzoni; specimens of, in Egyptian Museum at Paris, ii. 324.

Breast-plate, description of a silver, found on a mummy, ii. 328.

Breccia, quarries of, in many parts of Egypt, ii. 332; green, seldom used by the Egyptians; very difficult to work; beautiful sarcophagus in Museum made of, ii. 135; remarkable specimen, in the Museum Memnon, i. 275.

Bricks, unburnt, mode peculiar to Egypt, of building enormously strong walls with, i. 207; burnt, ruins of an extensive palace made of, at Barkal, i. 162.

Bridge, antient Indian, constructed with upright granite columns without arches, i. 205.

Bronze figures, whether of pure Egyptian art, ii. 323.

Bubastis, description of, by Herodotus, i. 46.

Bull, Apis, the great visible deity of Memphis; the bull Mnevis of Heliopolis; the bull Onouphis of Hermonthis, ii. 289; antiquity of bull-worship in Egypt is shown by golden calf of Israelites; Jeroboam's calf at Bethel; description of the requisite personal marks of Apis; his sacred residence; resemblance to the sacred bull of India; exact similarity in omen of eating grass from the hand, ii. 290; no ox or calf was killed before the priests found it had no mark of Apis; a single black hair made slaughter unlawful, ii. 291; all the inhabitants of Egypt slaughtered bulls and bullocks not having the marks of Apis, ii. 292; many beautiful still in Egypt; was indigenous in Egypt; two varieties, the humped and long-horned drawing of one resembling the short-horned breed; was a sacred animal, ii. 288; Osiris was venerated under form of a; received universal adoration in Egypt, ii. 289; plate in Rosellini representing the slaughter of the bull in Egypt; description by Herodotus of the mode of sacrificing a; remark on rejecting the head, ii. 293; those only with certain marks worthy to represent Osiris; was only the type of deity, ii. 294; Osiris sometimes represented with horns of a; bull-fights in use in Egypt with men; bulls were matched to fight in time of Strabo, ii. 295; inconsistently subjected to hard labour in Egypt and in India; remarks on this fact, ii. 294; object of worship in India; account of reverence in India of tame, ii. 292; walls of pagoda of Tanjore decorated with; sacred to the divinity there, i. 188; carcase of a, embalmed with asphaltum, found in great tomb at Thebes, ii. 172; description of a Brahmin bull in one of Rosellini's plates from a Theban tomb; resembles that in the London Zoological Gardens, ii. 293.

Burial grounds. (*See* Tombs.)

Burton, Mr. James, his Excerpta Hieroglyphica, i. 297; drawings of hieroglyphics on obelisks, i. 313; lithographed at Cairo, i. 4; iron mines at Hamamy discovered by, i. 12.

Byblos, Egyptian name of Papyrus, which *see*; description of, by Herodotus; a town in the Delta called; *βιβλιον*, book, a word of Egyptian origin, ii. 262.

Byssus, *βυσσος*, Elis, said by Pausanias to have been well adapted for growing it; of Elis, was fine as that of Hebrews; of Egypt, was manufactured into head-dresses and cloth by the women of Patræ, ii. 187; Rosellini's argument to prove it to be cotton, refuted, ii. 182 to 193; statement of the words used in the Hebrew scriptures and septuagint, translated *linen*, ii. 182, 183; not used by Herodotus for *fine* linen, ii. 185.

C.

Cæsarion, son of Julius Cæsar and Cleopatra, portrait of, ii. 89.

Cairo, modern, or Kahira, built by Arabs, i. 49.

Calendar, gilded circular, description of, on ceiling of tomb of Osymandyas; stolen by Cambyses, i. 241.

Calico printing, probably known to antient Egyptians, ii. 86; curious passage cited from Pliny, considered by Dr. Thompson to prove that antient Egyptians knew art of, ii. 195, 196.

Cambyses, invaded and ravaged whole of Egypt, i. 32; name of, on statue in Vatican, i. 33; blamed, perhaps more than he deserves, for destruction of Thebes, i. 40; did less mischief than is said, i. 371; very curious in looking into the tombs and opening mummies; whipped and burned a mummy which he took for King Amasis, ii. 114.

Camel, supposed not to be found on monuments of Egypt; is by some supposed to be represented on obelisks of Luxor; was well known to Greeks, 480, B. C.; many taken at battle of Platæa, i. 314, 315; is not found on monuments, ii. 289; embalmed head of, never found in tombs, ii. 166.

Cameleopard, figure of, on the memnonium and temple at Erments, i. 75.

Canal, description of a, near pyramids of Jizeh, explains passage of Herodotus, ii. 201; Joseph's, or Bahr Yussouf, description of, i. 7.

Canopus (*see* Jars), a deity; does not appear to belong to antient mythology of Egypt; appears on medals of Hadrian, ii. 26; description of jars so called, ii. 27.

Cap, lofty, one of the insignia of divinity or royalty, i. 105; yellow, vulture formed, emblem of maternity on Queen of Ramses III., ii. 85; on Queen Arsinoe, ii. 89; flat, square, on two walking sphinxes, i. 220.

Capital, quadrilateral, Isis-headed, frequently found in temples, from lat. 20 to the Delta; found at Sheik Selim, between Soleb and Amarah, i. 156; at Philæ, i. 147; at Mount Barkal, i. 162; at Edfou, i. 71; at Bebek, i. 44; some at Gorganto decorated with imitation of palm-branches, i. 155; lotus, a principal type in Egyptian, i. 103; cup-like, form of one in Museum; imitated from leafy type in nature, i. 115; great diversity of Egyptian, i. 105; detailed description of, as imitated from the palm, lotus, bulrush, vine, i. 106; most curious at Denderah, Isis-headed; similar found at Gartaas, Naga, and Mount Barkal, in Nubia, i. 108; description of one in Museum, worthy of notice, i. 110; of Piccadilly temple, London, i. 111.

Captives represented without hands, i. 239.

Cardinal points, the four entrances of great temple at Phtha at Memphis turned to the; so the great pagoda of Chalembaram and that of Siringam, i. 187. (*See* Pyramids.)

Carnak, remains of, more wonderful than those of Luxor; perhaps largest assemblage of buildings ever erected, avenue of sphinxes more than a mile in length, i. 64; minute description of, in the great French work, and by Hamilton and Richardson, i. 65; particular description of, i. 87, et seq.; twelve principal approaches to, i. 91; the nearer approaches and the principal one, the western, were lined with crio sphinxes or colossal rams, i. 215; surrounded by wall of unburnt bricks, 5,300 yards in circuit, i. 87; great hypostyle hall of, sustained by 134 colossal pillars; its width and depth, i. 88; area of St. Martin's church, London, not $\frac{1}{8}$ of the area of this hall, which is only $\frac{1}{7}$ of whole area of temple, i. 89; internal proofs of having been erected at different æras; with materials of earlier buildings; blocks covered with hieroglyphics being inverted and concealed, i. 65, 91; comparison with dimensions of St. Paul's, i. 93; names of Philip, Alexander, and Berenice, on walls of Adytum, i. 94; its ceiling painted with clusters of gilt stars on blue ground, i. 92.

Cartouches, idea of their containing proper names entertained before Champollion, ii. 349; used for same purpose by the Chinese, ii. 354; contain names and titles of kings; account of, in Transactions of Royal Literary Society, i. 114; several on a column and capital in Museum, i. 113; on two blocks in Museum, i. 124, 125; on an altar at Mount Barkal, i. 161; pairs of, one containing always the same symbols for name of Ptolemy, the other probably the title, ii. 88; instance of names of, carefully erased; this fact of common occurrence, ii. 332; in sanctuary of Carnak, containing names of Philip, Alexander, and Berenice, i. 94.

Caryatid pillars, at Thebes and Ipsambul; description of, at Medinet-Abou, i. 104, 105; similar in tombs of Hadjar Selselah, i. 138; caryatid elephant at Salsette, i. 182; columns of porphyry in India, fluted and decorated, with colossal statues attached, i. 290.

Castes in Egypt, subdivisions of, numerous as in India, ii. 106.

Cat, not discovered among sculptures; common domestic animal in Egypt, often embalmed, ii. 289; instance from Diodorus of the superstition of the Egyptians in killing a Roman for accidentally killing a, ii. 300; representation of a, in a picpicture of bird-catching, ii. 58; skeletons of, in tombs of Abousir, ii. 165.

Caviglia, Captain, his discovery of passages in the great pyramid, ii. 226.

Cedar, oil of, injected with syringes in embalming, ii. 103.

Ceiling, blue, a favourite colour for Egyptian; of Ipsambul is blue, i. 136; blue, at Semneh, i. 151; of adytum, at Carnak, blue, i. 92.

Censer, triple, painted yellow, held by Ramses in a painting, ii. 84.

Chains, festoons of, made of stone, in temple of Chalembaram in India, i. 185.

Chairs, Egyptian, of most beautiful forms, in paintings of a tomb at Thebes, ii. 181; description of, and couches, beautifully formed and ornamented, having red and blue cushions, ii. 338; description of one of elegant form; drawings of beautiful models of, in Rosellini, ii. 65; some apparently with stuffed cushions; representation of making, ii. 70, 71.

Chalembaram, remarkable pagoda of, i. 184; an enormous religious edifice; probably the growth of many ages; one of the oldest in India, i. 187.

Chalk, a production of the eastern desert of Egypt, ii. 332.

Cham. (*See* Ham, Chemmis.)

Champollion (*see* Hieroglyphics, Young, Dr.), did not first apply to hieroglyphics the term of *phonetic*, ii. 346; derived from Dr. Young the first hint that hieroglyphics represented *sounds*; circumstantial proof of this, ii. 348, 349, 350; his published opinion, previous to 1822, was, that they were signs of *things*, and not of sounds; published his new ideas in 1822, ii. 349; not the discoverer of the phonetic value of Egyptian hieroglyphics; his phonetic system, up to 1822, applied to interpret names of only Greek and Roman sovereigns of Egypt, not of Pharoahs, ii. 335; followed out, corrected, and extended Dr. Young's ideas, ii. 353; account of the successive extension and application of his system, ii. 354; precise exposition of the principles of his theory, ii. 355; extract from, exhibiting four principal conclusions, ii. 360, 361.

Charcoal, antiseptic properties of, known to antient Egyptians, in preserving bodies, ii. 116.

Chariot, a plate given by Rosellini, representing the making of a, ii. 71, 73.

Charon, the captain of the boat which carried the dead over the Egyptian lake for interment was named, ii. 147; represented steering a boat in funeral procession, ii. 159.

Cheek-bones of Egyptians, high, ii. 11.

Chemmis (*see* Ekhmim), once a large city of Thebes, contains the element Cham, i. 18.

Cheops, body of, placed in the great pyramid, ii. 219.

Chin, Egyptian, generally small, ii. 11; shortness of, characteristic of antient Egyptian statues, ii. 18.

Chinese, specimen of their contrivance for expressing European proper names; similar to that of Egypt, ii. 353, 354.

Chisel, pointed, used by Egyptian and Hindoo stone-cutters, i. 206.

Christian fanatics, their destruction, and appropriation of the temples of Thebes, i. 36; worship, once established in a temple at Dongola Agusa, i. 159; paintings on walls at Luxor, i. 86.

Church, Christian, chambers in temple at Luxor used for, i. 86; many in Heptanomis or middle Egypt, in the early ages of christianity, i. 38, 39; Greek remains of, in Philae, i. 38.

Cinnabar, used, says Pliny, to colour statues of gods in Ethiopia ii. 47.

Circumcision, an Egyptian practice; example of a mummy circumcised, ii. 110.

Cities, level of, were sometimes raised, i. 47.

Clay, art of baking, and of fixing coloured glazing on, antiently known in Egypt; specimens of, found in high preservation, ii. 333; art of baking vessels of, known to some American Indians, ii. 338.

Clemens of Alexandria, translation of passage of, describing the various kinds of Egyptian writing, ii. 361, 362; remarks upon, ii. 364, et seq.

Cleopatra, Egyptian portrait of, unlike her medals, ii. 89.

Cnuphis, temple of, in Elephantine, description of, i. 269.

Coins, Greek, Egyptian portraits of Ptolemies compared with heads on, ii. 88; heads on, doubtful as likenesses, prior to Alexander, ii. 79.

Colouring of earthenware and glass, ii. 333, 334, 335; Sir H. Davy's analysis of the fine Egyptian blue, ii. 335.

Colours, Egyptian (*see* Painting), pureness, permanence, and brilliance, the only admirable qualities of; list of those used for reliefs and stuccoes; red used for human flesh; many colours used conventionally for different races, ii. 45; description of the materials of, ii. 46, 47, 48; remarks on the materials used to produce the vividness of, ii. 320; brightness of, preserved by dryness of atmosphere and invariable temperature of the tombs, ii, 52; specimens contained in tombs of Thebes, on painted bas reliefs, in oldest temples, and on mummies, ii. 46; example of softening of, in animals, ii. 56.

Colossi, the word originally does not signify a figure above human size, i. 295; usually placed in pairs before the propyla of temples, i. 70; one 75 Greek feet in height, placed by Amasis before the temple of Phtha at Memphis, i. 32; that of Osymandyas, one of three before a doorway in his palace, described by Diodorus as largest in Egypt; its foot above 10½ feet long, i. 239; all connected with religious ideas, and personification of deity, i. 293; eighteen gigantic statues, like watchmen, before temple of Java, i. 290; colossal monolith statues in India placed in pairs at entrance of temples, i. 289; colossal bull at Tanjore, i. 290; at Talicut, i. 291; gigantic, of stone, ranged along wall of temple of Elephanta, i. 178; caryatid, against square pillars, i. 105; small figure placed near for contrast, and measure of magnitude, i. 157, 293; the same in India, i. 294; colossal elephants in temples of Ellora, i. 183; colossal marble statue at Sumnat, 5 ells in height, i. 290; the Borromeo Colossus at Arona, i. 295; Egyptian colossi were painted, i. 291; are naked, except head-dress and cloth about the middle, ii. 13; heads of, said by Belzoni to be disproportionally large, i. 293; four enormous sitting, at Ipsambul, largest in Egypt, except the Sphinx, i. 131; two, said by Herodotus, seated top of pyramids in Lake Moeris, ii. 242; two seated, each of a single stone, in tomb of Osymandyas, i. 240; description of the two seated at Western Thebes, i. 258 to 266; are 50 feet high, on pedestals of 6 feet high, i. 259; present us with whole effect of largest colossi in original position, i. 261; said, in Lucas's Travels, to have been called the cow and calf, because of horns on their heads, i. 265; the more northern is the Memnon of Strabo, i. 237; are called Tamy and Shamy, i. 281; notice of two colossal statues at Carnak, i. 88; two very large, at Luxor, i. 64; not uncommon among the Greeks; several, more than 20 feet high, mentioned by Pausanius; statue of Jupiter at Elis, 27 feet high; gold and ivory statue of Jupiter, at Olympia, 60 feet in height; Colossus of Rhodes 70 cubits high; Nebuchadnezzar's golden statue in plain of Dura, 60 cubits high; statue of solid gold, 12 cubits high, in temple of Belus at Babylon, i. 292; description of colossal figure in red granite, in Museum; its roundness of form, ii. 42; of red granite, near Tumbus, Upper Nubia; i. 156; two, of grey granite, in the Island Argo, i. 157; Greek, commonly were chryselephantine, marble, and of metal, i. 292; description of two colossal heads in Museum, i. 287 to 289; colossal arm in Museum, ii. 4; dimensions of head and arm in Museum, i. 270 to 275; colossal statues generally superior to small, ii. 4; the standing, have usually one foot advanced, i. 273; the sitting, have hands flat on thighs, ii. 5; description of picture representing the mode of moving them from the quarry, i. 284 to 286; colossal statues covered with plates of gold, on pyramids of sun and moon, near Mexico, ii. 254; description and dimensions of colossal fist in Museum, i. 256, 257; calmness and repose the most striking characteristics of Egyptian, i. 253; paintings representing the making of, ii. 67. (*See* Memnon.)

Columns, colossal, of the portico of Ashmouneim, consist of irregular pieces; architectural description of; painted yellow, red, and blue, i. 102; are imitation of palm-trees bound together, and not of the lotus, i. 103; 134 in great hall of Carnak, some 11 feet in diameter, i. 89, 92; square, in tombs at Thebes, Ipsambûl, and Medinet Abou, i. 104; of porphyry in India, fluted and decorated, with colossal statues attached, i. 290; noble porphyry column in Museum, from Egypt, i. 120; those of Denderah perfectly cylindrical; similar at Luxor; in portico of Esneh, and other temples, they diminish in diameter near bottom of the shaft, i. 103; covex fluting of, i. 104. (*See* Pillars.)

Commerce, buildings of Syene, Philæ, and Elephantine, assignable to, i. 68; observation on the extent of antient, ii. 126.

Copper, an abundant metal in Egypt; oxide of, used for blue colour, ii. 46; colouring matter of earthenware and glass, ii. 333; used as material for paint and for other purposes, ii. 323; mines, site of, i. 12; at Hamamy, ii. 324; arrow-head made of, ii. 327; pagoda of Chalembaram capped with, i. 185.

Coptic language, is said by Champollion to be the antient

Egyptian written in Greek characters, ii. 355; is a half-barbarous jargon of Egyptian, Hebrew, Arabic, and Greek words; exists only in Christian rituals and translations of Bible; compared with Hindustani and Bengâlî; has ceased to be spoken; meaning of many words of, very doubtful; known only through Greek alphabet, ii. 356; remarks on use of Greek alphabet for translation of Bible into Coptic, ii. 357; hieroglyphic language is *not* Coptic, ii. 369.

Costume, observation of, important for assigning the age of sculptures; example of a Greek-Egyptian statue, ii. 17; that of males in very general use among Egyptians, merely a cloth about the middle, ii. 15; two walking andro-sphinxes, with flat square caps and bands crossed under the chin, i. 220. (*See* Dress, Head-dress.)

Cotton (*See* Byssus, Mummies), known in Egypt long before time of Herodotus; cultivated in Egypt probably before epoch of Alexander, and continued in age of Pliny; cultivated in India in time of Herodotus, ii. 186; no proof from monuments, or from Herodotus, of culture or manufacture of, in fifth century B. C.; appears, however, that Egyptians were acquainted with it in sixth century B.C.; word used by Herodotus is *tree-wool*, ii. 125; Nearchus, a century after Herodotus, has no word for cotton in India; probably was cultivated in Egypt, after Macedonian expedition to India, ii. 127; vessels full of cotton-seed found by Rosellini in tomb at Thebes, ii. 186; filaments of, appear through powerful microscope, transparent cylindrical tubes, flattened and twisted, ii. 188; microscope, examination of, by Messrs. Bowerbank, Williams, and Dr. Ure; flat riband-like appearance of fibres, ii. 191, 192, 193.

Cow, received universal adoration in Egypt; Isis venerated under form of; dead cows were thrown into the Nile, ii. 289; slaughter of, altogether forbidden in Egypt; was sacred to Isis, ii. 291, 292; is slaughtered in India on occasions of necessity, ii. 294; cows' flesh not eaten by antient Nomadic Libyans and women of Cyrene, ii. 292; account of the sacred cows in city of Benares in India, ii. 291; held in highest estimation in India; brought into courts of justice by Brahmins, to swear by; aged cows in India are pensioners in family of owner; a Hindu would as soon kill his own child, ii. 291.

Crane migrated to Egypt from Scythia, ii. 312.

Crocodile, sacred in some districts, ii. 300; treated in others as an enemy, ii. 304; description of, by Dionysius Halicarnassus and M. St. Hilaire, ii. 300; not seen now in Delta; found in great numbers in Thebaid and Upper Nile; description of several varieties of, ii. 303, 304; the *monitor* was the animal tamed by the antient Egyptians; confounded by Herodotus with crocodile; was profoundly respected by the people of Thebes and Lake Moeris; tame ones kept; adorned with ear-rings and bracelets of glass and gold; embalmed in sacred tombs; was killed by people of Elephantine; flesh of, tasted and considered good by Thevenot; barbarians feast upon it, ii. 304; account from Strabo of a tame one pampered by the priests at Arsinoe; any man killed by, was embalmed by priests in sacred tomb, ii. 103, 104, 305; was symbol of Typhon, the evil genius; Coptic name of is *emsah;* called by Arabs *timsah;* in Herodotus, *champsa;* the reason of Typhon's taking the form of, ii. 305; received especial honour near Lake Moeris, ii. 289; mummy-crocodile with ears pierced for rings, ii. 333. (*See* Arsinoe.)

Crosier, symbol of Osiris, i. 105, ii. 152; figures holding long knives and crosiers, i. 393, 394.

Crosses and lilies, granite columns and capitals ornamented with, at Dougola Agusa, i. 159; on the obelisks at Rome destroy their effect, i. 335.

Crux ansata, or sacred Tau, Osiris on throne holding the, i. 255; held by figures, i. 76, ii. 10, 331; suspended from the serpent, i. 314.

Ctesias, his fragments, i. 268.

Cupola, several Hindoo buildings of the shape of the, i. 204.

Cyrus conquered Egypt, according to Xenophon, i. 32.

D.

Dædalus, the father of Grecian statuary; Egyptian attitude of his statues; built one of the four propyla at Memphis; wooden statue of, in temple of Memphis, i. 380.

Dandour, temple of, described; resembles Greek and Roman temples, i. 138 to 140.

Daniell, views of Ellora by, i. 183.

Darius, in Egypt, story of, from Herodotus, i. 34.

Date-tree represented in painting, ii. 74.

Davison, his discovery of a chamber in great pyramid, ii. 225.

Dé, Egyptian great height of; similar effect produced in St. Martin's Church, i. 98, 115, 116.

Debod, description of temple of; contains two monoliths, i. 144;

Deity, figure of, how represented in the Adyta, i. 73; under form of ram, i. 227; symbolically represented in Egypt, ii. 295.

Delta, a flat alluvial country, intersected by numerous canals, i. 6; description of present appearance of; once adorned with magnificent temples, obelisks, and colossal statues, i. 42; antient remains of, are striking; are more antient than many temples in Middle and Upper Egypt; they mark one of the splendid epochs of Egyptian history, i. 44; cause of their disappearance; some remaining at Damanhour and Tel Etmaie, i. 49.

Denderah, or Tentyra, magnificent temple of; enclosed within a wall 1,000 feet square; probably erected under the Ptolemies; described by Mr. Hamilton and Dr. Richardson, i. 58; ludicrous drawing of, by P. Lucas; Belzoni's description of, i. 59; the zodiac of, i. 61. (*See* Capital.)

Denon, quotes Herodotus for what is not in that author; his description of Thebes, i. 62.

Derri, or Derr, now the chief town of Lower Nubia; description of its antient rock-cut temple, i. 136; exhibits the same subject painted as at Edfou, i. 137.

Dioclesian, pillar of, at Alexandria, called Pompey's Pillar, i. 42.

Diodorus, an inaccurate observer and careless compiler, i. 237; his description of Thebes a very confused account, i. 94; not remarkable for saying good things, ii. 149; his confusion of Assyrian and Egyptian history, i. 268; his account of the judgment of the dead in Egypt, ii. 147; his description of the palace of Osymandyas, i. 238; passage from, describing Egyptian mode of forming proportions of a statue, i. 380; obtained his knowledge from priests, i. 27.

Dionysus same as Osiris, ii. 176.

Diospolis the Great, the Greek name of Thebes; the great city of Jupiter, i. 95.

Dog, the, was buried in sacred tombs; was a favourite with the Egyptians; they possessed numerous species; painting of, coupled, with collars, and greyhound led by a man; are found embalmed; an embalmed dog's head in Museum, ii. 295; many at Thebes; usual head of, on human shoulders, resembles the fox, ii. 298; head of, a symbol of gross sensuality, ii. 152; skeletons of, in tombs of Abousir, ii. 165; greyhounds, i. 394, 395.

Domestic life, represented on walls of the painted sepulchres, i. 17.

Door, no vestiges of a, have been discovered in Egypt; some indication of, on remaining jambs; remark on those of Solomon's temple, i. 119.

Doorways, Egyptian, found both with upright rectangular jambs and with jambs inclined to each other; Humboldt mistaken about, i. 116; rectangular form occurs in the oldest buildings; at Edfou; at Medinet Abou; at Ipsambul; in a pyramid of Sakkara; in the old Ammonium at Siwah; inclining form found at Medinet Abou; in a monolith at Philæ; at

Denderah, i. 117; first-floor windows of Egyptian Hall in Piccadilly give some idea of; oldest Doric, Ionic, and Attic doorways described by Vitruvius as inclining; this form appears most frequently in more recent Egyptian buildings, i. 118; those in the propyla are one of the most imposing parts of Egyptian architecture, i. 77; that at Carnak 64 feet in height, i. 87.

Doric temples, the oldest not inferior in magnitude to the largest edifices of Egypt, i. 98.

Doum, the Thebaic palm, i. 103; forms of Egyptian pillar derived from the previous use of, i. 111.

Drawings on papyri, description of; animals well delineated, ii. 271.

Dress, of Egyptian statues and sculptured figures described, ii. 12 to 24, and 83 to 86; of painted figures in Museum, ii. 52 to 54; of several statues of Isis minutely described by Winkelmann, ii. 20, 21; description of two embroidered tunics, ii. 119; description of long vest commonly worn by females, resembling printed calico; rows of beautiful needlework; beautiful dress of females in Rosellini's plates, ii. 86; female dresses in curious painting, ii. 67, 70; tie of white cloth about loins, ii. 56, 60; shirt with sleeves, ii. 60, 65; upper and under vest, ii. 122; description of garment found in Leeds mummy; the calasiris of Herodotus; dress of the laity and of the priests described by Herodotus, ii. 118; white dress of four Ethiopians in painting from tomb of Thebes, ii. 174; that of the figure on sarcophagus cover in Museum, ii. 22, 23; of lion-headed figure in Museum, ii. 37; of colossal statue in Museum, ii. 42; of Rameses and his wife, in a painting; is the best extant specimen of dress of Egyptian sovereigns; is, in this respect, the most curious of Egyptian antiquities, ii. 83, 84, 85; dress is better understood by comparison of statues and paintings, ii. 85; difference of Egyptian and Oriental, represented on temple of Luxor, i. 387. (*See* Costume, Head-dress.)

Dromos, the paved way leading to a temple lined each side with sphinxes, i. 80.

Drovetti and Belzoni, i. 306.

Ducks, description of a painting in a Theban tomb, 3,600 years old, representing fowlers catching, ii. 62; process of salting them, ii. 63; duck of the Nile very common in Egypt, ii. 311.

E.

Eagle, found frequently on monuments; one of the sacred marks of the bull Apis, ii. 310.

Earth, spherical figure of, unknown to Egyptians, ii. 32.

Earthen vessels, manufacture of, represented on walls of Theban tomb, ii. 179, 180.

Earthquakes, very little injury occasioned by, in Egypt and Africa, i. 366.

Ears, in Egyptian figures, placed much too high, as in the Museum Memnon, 1. 253; ii. 11.

Ear-rings, large circular, of females in a painting, ii. 70; worn by crocodiles, ii. 304, 332; by a chieftain, i. 393.

East, eight mummies found by Belzoni in their original position, all facing the, ii. 132.

Edfou, temple of, one of the best preserved, i. 66; description of, i. 69; description of the painted sculptures on propyla of, i. 76; superior to Denderah in magnitude; pronaos of, the only one in Egypt in such perfection, i. 74; propylæon of, is largest and most perfect in Egypt; front of, faces south, i. 79.

Edifices, Egyptian, width of some of the great courts and chambers in, greater than the length; entrance in centre of longest side, i. 88.

Egypt (*see* Nile), more credible history of, commences when the Greeks got footing in, i. 126; political existence of, terminated 2,000 years ago, ii. 318; populous and powerful in time of Jacob, i. 17; monuments of, are its best history; mentioned first under name of Mizraim; Coptic name of, is Ham or Cham; view of early history of, i. 17, et seq.; physical aspect of, described by Volney, i. 14; physical peculiarities of, similar to those of India, i. 19; nearly all knowledge of Antient Egypt has come to us through the Greek writers; history of, divided into four periods, i. 21; the brilliant period, that which followed expulsion of shepherd kings, i. 31; series of kings of, from Herodotus and Diodorus, i. 23; first conquest of, was by the Hyksos or shepherd kings, probably of Arab stock, i. 30; invasion of, by Silco, i. 41; history of, under the Persians, obscurely known, ii. 32; new order of things under Alexander, i. 34; traditions of the Asiatic conquests of monarchs of Egypt confirmed by historical painted sculptures, i. 392; remarkable event in history of, represented on monuments of Thebes and Ipsambul; the triumph of Egyptian monarch over Asiatic enemy, a subject for Egyptians, like war of Troy to Greeks, i. 64; passages in a MS. concerning early connection of Egypt with India forged by a Brahmin, i. 19; antiquities of, can be understood only by studying the character of the country, i. 16; southern limits of, i. 6, 128; great variety of vegetable and mineral substances in, ii. 48; three geological divisions of, i. 362; geological and mineralogical description of, i. 10, 11, 12; possessed of abundant and durable writing-materials, ii. 261; climate of, is dry, ii. 52; our knowledge of the temples of, limited, half a century ago, to a few ill-made drawings, i. 167; some striking remains of antiquity are found in Middle Egypt, i. 42. (*See* Herodotus, Diodorus, Manethon, Kings.)

Egyptians, theories concerning their origin; facts indicating early connection of Egyptians and Indians; the most plausible theory traces them to Abyssinia, i. 18, 19; poorer class of, went nearly naked; practised athletic sports, ii. 4.

Ekhmim, called by Herodotus, Chemmis, the antient Panopolis, ruins of two temples of; now contains best Coptic church in Egypt, i. 57.

Elephant, figure of, only at temple of Philæ, i. 75.

Elephanta, island of, its situation; description of the colossal elephant, from which it is named, i. 177; Erskine's description of the magnificent excavated temple of, i. 178, 179; dedicated to Siva alone, i. 180; dimensions of; description of pillars of, i. 179; picturesque views of, by Daniell, i. 181; posterior to, and an imitation of, constructed buildings above ground, i. 203.

Elephantine, island of, antient remains on, not very striking; some belong to age of Pharoah, i. 68; its ruins attest the art of the Egyptian, Greek, Roman, and Arab, i. 37.

El Faioum, district of, one of the most interesting in Egypt, i. 53.

Ellora, temples of, described; granite mountain, chiselled out from top to bottom; formed into innumerable temples; twenty appropriated to Siva; chief temple or monolith, 103 feet long, 56 wide, 100 high, i. 182, 183.

El Meçaourah, great temple at, conjectured to be the original Ammonium, i. 18; vast collection of ruins at; original seat of the oracle of Jupiter Ammon, i. 173.

Embalming, probable origin of, in Egypt, i. 15, ii. 151; earliest notice of, in Genesis; oldest description of, is by Herodotus; as in use 450 B.C., ii, 99; his description of three modes of; body placed in nitre seventy days; brain drawn through nostrils, ii. 100 to 103; incision made in the side, always the left, with Ethiopian stone; conjectured to be a pyromachus silex, ii. 107; females of rank not delivered to embalmers until third or fourth day after death; whether foreigners were compelled to observe Egyptian mode of interment, ii. 103; account of, by Herodotus, appears substantially correct, ii. 106; was a regular profession, ii. 100; not peculiar to Egypt; used by many antient nations, and at the present day; heads of new Zealand Chief embalmed with great skill; Birmese priests are embalmed exactly in

Egyptian mode; no traces of embalming in Greece before Macedonian period, ii. 146; known at Babylon, ii. 144; was continued under the Roman Emperors, ii. 161; diversity in the process of; the pickling in brine not mentioned by Diodorus; was often dispensed with, ii. 111; when the body was plunged into boiling asphaltum, or had this liquid pitch poured over it; difference between the time stated by Herodotus and Diodorus for the pickling process; whether, after embalming, the cuticle were removed; process, according to M. Rouyer, of steeping in natron, and subsequent operations of heating the bodies in stoves, ii. 112, 113; operation of making the incision often represented on papyri and mummy-cases, ii. 107; viscera and intestines were destroyed by powerful injection; signification of *συρμαιη* in Herodotus; in all modes of embalming, bodies lay seventy days steeped in natron; description of the cheap mode of preserving bodies, ii. 116; preservation of interior parts; no example yet found of incision sewed up, as stated by Herodotus; instance of stomach filled with lumps of pitch and myrrh; others with pounded aromatics, ii. 110, 111; description of vases, containing embalmed intestines and viscera, ii. 108; the account, by Porphyrius, of the ceremony of throwing the viscera into the Nile, ii. 109; that part of the account of, by Diodorus, which speaks of the operator being cursed and pelted, probably untrue, ii. 105. (*See* Mummies.)

Embalmers, represented in pictures, painted black; with jackals' heads, ii, 107, 108; formed a distinct caste; had free admission, with the priests, into the temples, ii. 105.

Emerald, was object of mining speculation, ii. 329.

Enamel, gilded, hieroglyphics of, ii. 121. (*See* Eyes.)

Enchorial language of Egypt, an ingenious paper in Dublin University Review on the, ii. 371; characters of, ii. 318; Dr. Young's remarks on the enchorial text of the Rosetta Stone, ii. 344; a papyrus written in, ii. 271.

Enclosures, rectangular, of pyramids, tombs, catacombs, ruins, and great sphinx, ii. 202.

Entablature, Egyptian, great height of; exceedingly high and massive in oldest Doric temples, i. 98.

Ergamenes, an Ethiopian king, educated in the Greek philosophy; massacred all the priests of Ammon, at the golden temple, i. 174, 175.

Erments, the antient Hermonthis, ruins of, very extensive; sculptures of temple, different from any other; remains of Greek church at; was once an episcopal see; remains of a tank near the temple, i. 66.

Esneh, antient Latopolis, ruins of, considered by Denon as one of the finest specimens of Egyptian architecture, i. 67.

Ethiopia, the eighteen monarchs of, mentioned by Herodotus, are all prior to Sesostris; probably introduced into Egypt the ritual of Meroe and worship of Isis and Ammon; kings of, paid strict obedience to the superior power of the hierarchy, i. 172; was the parent of Egyptian civilization, i. 174; Egypt, says Diodorus, received the practice of deifying kings, hieroglyphic writing, embalming, whole sacred ritual and forms of sculpture from, i. 168; warrior-queens of, i. 171; language and religion of, same as those of Egypt, i. 96.

Ethiopians, representation of four, in a painting, in tomb of Thebes, ii. 174; described by Herodotus as painted half with gypsum, half vermilion, ii. 45.

Eusebius, Greek text of the chronicles of, exists only in fragments, i. 26.

Exodus, quoted, concerning the Israelites in Egypt, i. 20.

Eyes, Egyptian, described, ii. 9; of mummies, found sometimes replaced by glass or porcelain, ii. 115; eyes and eyebrows of superior mummies, of enamel, beautifully executed, ii. 120; a gold statue with eyes of precious stones, i. 290; a Greek head in Museum, with eye-sockets hollowed out to receive eyes of another material, ii. 18; figure of an eye occurs often on Egyptian monuments, ii. 328.

F.

Face, Egyptian (*see* Physiognomy, Eyes, Mouth, &c.), curious description of several, in antient papyrus MS., ii. 274; many Egyptian statues have individual character of, ii, 42; of great Sphinx, remarkably calm and placid, ii. 244; of female figure in Museum, remarkable for pleasing expression, ii. 13; of male figure in Museum, with smiling expression, and good example of beard-case, ii. 38.

Fan, representation of an Egyptian, ii. 179.

Fawn, represented in a painting, ii. 67.

Feast, Egyptian, image of a corpse exhibited at, ii. 149.

Features. (*See* Physiognomy, Face, Eyes, &c.)

Fellahs, half-savage Arabs; their huts stuck like wasps' nests on the temples, i. 75.

Females, Egyptian, appear to have enjoyed pleasures of the table with the males, ii. 79.

Fig-sycamore used by Egyptians for great variety of purposes, ii. 129.

Figures, Egyptian (*see* Statues, Colossi, Face, Dress, Reliefs), characteristics of, generally assumed to be ugly, stiff, and ungraceful; answer to this objection, ii. 1, et seq.; head and extremities of, deserve particular attention, ii. 9; contrasted with Grecian, ii. 7, 8, 9; description of two, man and wife, in Museum, ii. 2; kneeling, several excellent in roundness of limb, ii. 4, 5; description of one in Museum, on bended knees, holding tablet containing three other figures, ii. 36, 37; seated, have feet placed parallel to each other, ii. 5; seated, one in Museum, possessing much merit, ii. 38; standing, have one foot advanced, ii. 5; description of standing figure of large corpulent man, ii. 38, 41; description of two painted, in Museum, ii. 52, 53; similar groups of; coloured female figure in Museum, a curious and beautiful specimen of Egyptian art; finely formed and rounded, ii. 54, 55; fragment of, in Museum, remarkable for cross-legged attitude, similar to Hindu statues, ii. 30; those sculptured on Egyptian temples said by Strabo to resemble the Tyrrhenian and very antient Greek, i. 81; male generally represented naked, except cloth about the middle, ii. 15; male and female, bearing before them monoliths, or shrines, ii. 16, i. 379; female, lion-headed, from Thebes, with disk on head; great variety of, in Museum, ii. 37, 38; of the apostles in temples, painted upon those of Egyptian deities, i. 38; Egyptian and Hindoo attached by the back; square pillar at back remained to latest age, i. 374; description of one in Museum, i. 375; in relief, i. 384.

Fire, worship of, pyramids and obelisks thought to relate to, ii. 257.

Fish, Egyptian priests not permitted to eat, ii. 62; skeletons of small, in tombs of Abousir, ii. 165.

Fishermen, modern, of Egypt, their accurate knowledge of water animals, ii. 303.

Fist, colossal, in Museum, description and dimensions of, i. 256, 257.

Flagellum, symbol of Osiris, i. 105, 225; ii. 152.

Flax, probably indigenous product of Egypt; cultivated and manufactured from the earliest times, ii. 125; said by Herodotus to have been cultivated by the Colchi, ii. 184; bas-relief in grottoes of Eileithuias, representing gathering of, ii. 194; and in tomb of Kum El Ahmar, ii. 195; fibres of, are transparent tubes, jointed like cane, ii. 189.

Foot, curious foot-shaped block of granite, found by Rüppel, at Barkal; conjectured to be the sandal of Perseus; footstep of Hercules seen by Herodotus on a rock; description of Egyptian feet, ii. 12; Roman (measure), 11 inches nearly, ii. 228; position of, ii. 5.

Fostat, or Old Cairo, on the site of a town named Babylon, i. 49.

Freestone, ruins of, large building made of, at Barkal, i. 162.

Friezes, description of two, so called, of an Egyptian temple, in Museum, particularly deserving examination, i. 120; specimens of genuine Egyptian art; contain correct delineation of natural objects; in high state of preservation, i. 126.

Funeral procession, Egyptian, represented in Rosellini's work, ii. 154 to 156; description of a very singular picture in Rosellini, representing a, ii. 156, 157; sledge drawn by oxen, and boats crossing the lake, ii. 159; horses never found drawing the bier; processions were apparently very expensively exhibited, ii. 157; in some drawings, mummy seen conveyed in a boat; females with bare breasts and loose hair; mourners apparently hired for the occasion, ii. 158, 159.

Furniture, Egyptian, singular beauty and elegance of forms of; evidently designed to please the eye; certain evidence of social refinement, ii. 338, 339; Egyptians delighted in appropriating form of lion for sofas and couches, i. 228.

Future state, believed in by Egyptians, ii. 151.

G.

Ganges, subterraneous communication of, with pyramidal temples, near Benares, ii, 255.

Garden, Egyptian, picture representing, has all the formality of old Dutch garden, ii. 74.

Gartaas, temple of, boatmen pay adoration to, i. 144.

Gau, his work on Nubia; exact copies of some of its finest engravings, in the present volumes, i. 3; quotation from, on the effect produced by an Egyptian temple, i. 149; a judicious critic on Egyptian architecture, i. 150; his opinion, as an architect, particularly valuable; his three propositions concerning Nubian architecture, i. 129.

Gau el-Kebir, antient Antæopolis, remarkable for remains of antient temple, 300 feet long; a portico of eighteen columns, 8 feet diameter, 62 feet high; thrown down in 1819; surrounded with grove of palm-trees, i. 56, 57.

Gausapa, sort of clothing on two Greek statues of Isis; winter-dress of Roman ladies, ii. 21.

Geometry, no evidence of any great progress in, among antient Egyptians, ii. 340.

Gilding, art of, well known to antient Egypt; gilded wooden cow, containing embalmed body of daughter of Mycerinus; many mummies found gilded, ii. 114; gilded enamel, ii. 121, Giraffe, Agatharchides, first Greek writer who mentions the, i. 395; excellent representation of, in temple of Kalapshé, i. 394; occurs only once or twice; was not sacred, ii. 289; figure of, at Medinet Abou and Erments, i. 75.

Girsheh, temple of, described; exceedingly rude; shows infancy of art of sculpture, i. 137.

Glass, art of fabricating, of high antiquity; known perhaps earliest in Egypt; beads of blue, and larger masses, found in mummies; ear-rings of crocodiles probably of, ii. 332; specimens of Egyptian glass analysed by Professor John, ii. 334; antient blue, said by Davy to be coloured with cobalt; that coloured with copper must have been opaque; black substance found in mummies said to be true glass coloured with iron, ii. 335; paintings, representing glass-blowing; Pliny's account of the accidental discovery of, in Phœnicia; high antiquity of Phœnician glass-making is not proved, as that of Egypt, by existing specimens, ii. 336; Egypt probably the parent country of this art; thence diffused among Phœnicians, Greeks, and Romans; great use of, as article of luxury, among wealthy Romans, in time of first Emperors; chiefly imported from Phœnicia and Egypt; has greatly contributed to domestic comfort and progress of science; passages collected by M. Boudet, from antient writers, to show the extensive use of, among the Romans, and perfection of the art by the Egyptians and Phœnicians; drinking, burning, looking-glasses, glass gems, made long before time of Pliny; used in sky-lights of antient Roman and modern Egyptian baths; coloured, used on Roman walls and pavements; coarse articles of, still made in Egypt, ii. 337.

Glazing, of baked clay figures and ornaments, ii. 333; of jar, ii. 26.

Globe, winged, with erect serpent, usual ornament of doorway-friezes, i. 77.

Glue, Egyptian, experiment on, by Professor John; probably made of hard hides of rhinoceros and hippopotamos, ii. 51; glue-water used to make colours tenacious, ii. 47.

Goat, received especial honour at Mendes in Delta, ii. 289; was eaten by people of Thebes, ii. 296. (*See* Mendes.)

Gold, supply of, in Egypt; proved by gold leaf on mummies, ii. 321; numerous vases and vessels of, represented in paintings, ii. 329; mines in Egypt, site of, i. 12; description by Agatharchides, of antient mode of working, ii. 321, et seq.; site of, identified by D'Anville, with that of Jebel Allaka; more probably Hamamy, ii. 323.

Goose, Egyptian, chenalopex of Herodotus; occurs frequently on sculptures; not sacred bird; favourite article of food for priests; was under care of Isis; place called Chenoboscia (goose-pens) in Upper Egypt; was very common in Egypt, ii. 311; was common article of food, ii. 62, 268; goose-quill used for writing, ii. 268; apparently a great demand for, in Egypt; priests had plentiful supply of; goose and duck painting favourite subjects of Egyptians, ii. 62; appears to have been a standing dish, ii. 78; finely sculptured on altar, in Museum, ii. 41; curious painting, representing a flock of, ii. 60; Coptic word for, ii. 347.

Gorganto, considerable remains of, described by Rüppel, i. 154; name of Ramses found at, i. 155.

Gossypium, species of cotton described by Pliny, ii. 184; religiosum, seeds of, found in Theban tomb, ii. 186.

Gourneh, Gournou, or El Ebek, situation of, i. 237; description of tombs of; excavated in the plains, 14 feet below the surface, i. 208; ii. 166, et seq.

Granite, in Upper Egypt, in early periods used only for obelisks and gateways, i. 66; quarries of, near Syene, employed many hands, i. 68; surface of, becomes decomposed by action of atmosphere, i. 357; prodigious blocks of, in ruins of Bebek, i. 43. (*See* Quarries, Polish.)

Greek writers, derived their knowledge of Egyptian history merely from traditional explanations of the sculptures on temples and grottoes, i. 397.

Greek language, fact of its extension proved by inscriptions, from the Delta to Abyssinia, i. 398; its adoption in Nubia in reign of Diocletian, i. 41.

Greeks, very numerous all over Egypt, under the dynasty of the Ptolemies, i. 148; from time of Amasis, 569 B.C., began in Egypt to blend their religious ideas and forms of art with the Egyptians, i. 397; built temples, i, 129; adopted Egyptian usages, ii. 20, i. 398; introduced their gods into Egypt, ii. 20.

Grinding-stones, made at Bebek, of the pedestals and capitals of temple pillars, i. 49.

Grottoes of El Cab, Eleithuias, painted chambers of, the best place for studying domestic life and rural economy of antient Egyptians, i. 67; of Beni-Hassan, i. 56.

H.

Hadjar Selseleh, extensive quarries of, i. 67; family groups of sculptured figures in tombs of, i. 137.

Hadrianus Cæsar, of all the Roman Emperors, the greatest friend of Egypt, and lover of her arts and religion, i. 348.

Hair, worn by Egyptians, thick and bushy; shaved to strengthen it; few Egyptians, says Herodotus, were bald; female mummies found with long and beautiful; male mummies found always shaved; heads of laymen shaved after death, ii. 115; instance on a mummy of, black, thick, and curly, ii. 121; wife of Ramses with black, hanging down to waist, braided in long chains or ropes, ii. 85; black, hanging down to middle of the back of a female, in funeral procession, ii. 157; of Egyptian women, fell down at the back in numerous tresses; a mummy with, quite black, ii. 98; two very curious Egyptian paintings, of party of ladies having profusion of black tresses, ii. 69, 75; figure of Harpocrates with long lock of, hanging down right side of face, i. 159; twisted lock of, on head of Ramses, resembling ram's horn, ii. 82; instance of shaved head, ii. 54; bald men, in a painting in Museum, ii. 62; black, and white, of men, in a painting, i. 285.

Hall, Egyptian, in Piccadilly, a monstrous combination, i. 99; enormous, in pagoda of Chalembaram, with more than 1,000 pillars, 36 feet high, i. 184. (*See* Carnak.)

Ham, or Cham, the Coptic name of Egypt, i. 17.

Hamilton, Mr., his Ægyptiaca preferred to other authorities, i. 2; his description of Carnak, i. 91.

Hands, Egyptian, made clumsily and shapeless, ii. 11; colossal fists better formed, ii. 12; not always placed flat on the thigh, i. 257.

Hare or rabbit, in Egypt, not sacred, but article of food; drawings of, ii. 298.

Harpocrates, resemblance of, to Horus, ii. 305; figure of, at Edfou, i. 75; with ram's horns, standing on foot of a colossus in Argo, i. 159.

Harps, representations of, frequently found in Theban tombs, ii. 339; in harper's tomb at Thebes, one of elegant form, ii. 177; one with twenty-one strings; free attitude of harper, ii. 178.

Hawk, Egyptian, much larger than Greek; was deified and embalmed, ii. 310; head of, often found on human body as emblem of Phre, the sun; with regal cap, represented the sun, ii. 152, 174, 310; was reverenced by the Greeks, ii. 310; death, the punishment for killing one, in Egypt, ii. 300.

Head-dress, Egyptian, description of, ii. 12, 13; of female figures in Rosellini; example of curious and beautiful, ii. 86; of painted figures in Museum, ii. 52 to 55; vulture-formed, of Arsinoe, ii. 89; of a Memnon, in Museum; supposed by Pococke to be imitation of Theban palm, i. 278; Böttiger's opinion of it, i. 254. (*See* Mexican Sculpture.)

Heeren, his work on Egypt well deserving a careful perusal; and his work on Antient India, i. 3; opinion of, about caravan-roads between Carthaginia and Thebes, i. 33; quoted concerning the original temple of Ammon, i. 18.

Heliopolis, or On (*see* Matarie), one of the most famed of Egyptian cities; its site marked by an obelisk; ruins of, three miles in circuit; description of, by Abdallatif, i. 47, 48; the most learned college of Egyptian priests; records of, i. 26. (*See* Obelisk.)

Helmet, of Ramses, of polished metal, studded with gold, ii. 84.

Hemp, tubular structure of, ii. 191.

Henné plant, used for dying mummy-cloth; now cultivated at Cairo, ii. 189; a yellow pigment, used in the East, ii. 47.

Hephæstus, or Phtha, symbol of eternal fire; represented by the Scarabæus, ii. 313; description of remains of the great temple of, at Memphis; was begun by the mythical king Men; six colossal statues placed before it by Sesostris; was entire in Strabo's time; state of, in twelfth century, i. 52.

Hermapion, the Egyptian inscriptions which he translated into Greek are not, says Champollion, on any existing obelisk in Rome, i. 339.

Hermes, invented letters in Egypt, ii. 366; pillars at Carnak in character of, i. 105; temple of, i. 46. (*See* Ibis.)

Herodotus, visited Egypt about a century after death of Amasis, i. 84; derived his information chiefly from priests of Memphis, i. 25; deep religious feeling of; his decent respect for all religions a proof of his good sense; a sacred reason always respected by, ii. 118; an admirable traveller, i. 395; the father of history; his veracity, accurate and minute observation, i. 396; in his numerous digressions seldom includes anything not necessary to his main object, ii. 243; story of, is a singular specimen of Egyptian gossiping tradition, ii. 239; his description of Bubastis, i. 46; quoted concerning Darius in Egypt, i. 34; is mistaken in saying all wine drunk in Egypt was imported, ii. 78; his account of the process of embalming, ii. 100; was at Thebes, ii. 243; age of, ii. 99.

Hierarchy, Egyptian, the three great centres of the, were Memphis, Thebes, and Heliopolis, i. 25; in its origin probably promoted civilization and commerce, i. 174. (*See* Priests.)

Hieroglyphics, Egyptian (*see* Champollion, Young, Zoëga), according to Champollion, are at once figurative, symbolical, and phonetic; translation of the passage of Clemens, describing the different kinds of Egyptian writing, ii. 361, 362; tabular view of these modes, and remarks on, by M. Letronne, ii. 363 to 365; Champollion's mode of interpreting by means of Coptic, ii. 355; specimen of this process from Rosellini, ii. 357 to 359; remarks on it, ii. 273, 360; conjectured first by Zoëga to represent sounds, ii. 346; some existing texts of, supposed to have been written 1,500 or 2,000 years B.C., ii. 355; description of hieroglyphic writing on papyri, ii. 270; none found on or in the pyramids; perhaps originally inscribed on them; some evidence of this fact, ii. 218, 219; found on block between paws of the great sphinx, ii. 247; found at Sakkarah, ii. 240; at Sesce, i. 156; absence of, not decisive means for assigning the age of sculptures, ii. 17; hieroglyphic sculptures on pyramid of Mexico, ii. 255; most, but not all animals used in, were sacred, ii. 289; head of camel or ass never appear in, ii. 166; painted, example of, same colours assigned to same symbol, ii. 157, ii. 86; some executed apparently with wooden mould, ii. 161; some impressed on leather with heated metal types, ii. 122; proved by Zoëga not to have been disused, on the conquest of Egypt, by Cambyses, but continued till Christianity succeeded Paganism, i. 298; are not signs of sounds, ii. 360, 369. (*See* Coptic.)

Hindoo temples, sculptures of, to be compared with those of Egypt, i. 127; no sufficiently accurate drawings and plans of, i. 188; pyramidal form appears in the oldest, i, 100; according to Gau, are posterior to those of Nubia, i. 129. (*See* India.)

Hippopotamus, head of, on body of calf, ii. 313.

Hog, figure of, appears several times well drawn, at Edfou, i. 79.

Holy recess, or sanctuary (*see* Adytum), small oblong room, at Edfou, 33 feet by 17; figure of deity was placed in, i. 73; always of small dimensions, not supported by pillars, i. 85; at Carnak, consists of three apartments, i. 92; priests only, and kings, admitted into the, i. 73.

Homer, speaks of Thebes as having 100 gates, i. 95; alludes to festival of holyship, in speaking of Jupiter's visit to Ethiopia, i. 96.

Honey, bodies preserved in, ii. 144, 147.

Horse, figure of, as hieroglyphic, occurs very rarely; instance of, at Medinet Abou and Edfou, i. 75, ii. 289; occurs frequently in historical sculptures at Thebes, i. 79; was not a sacred animal, ii. 289; embalmed head of, never found in tombs, ii. 166; painting of horses, ii. 72.

Horus, son of Osiris, Typhon took form of crocodile to escape from vengeance of, ii. 305; represented trampling on crocodile, ii. 307; sitting in lap of Isis, i. 61; beard-case appropriated to, i. 254.

Houses, private, nature of, did not prevent the raising of the level of cities; the mass of them were mere huts, i. 47.

Husband and wife, figures of, after death, united by Egyptian sculptors, ii. 2.

Hyksos, or shepherd-kings, conquest and reign of the, between 1600 and 1800 B.C.; event of their expulsion a principal subject of Egyptian art; represented on walls of Theban edifices, i. 30.

I.

Ibis, characteristics of; found frequently embalmed; skeleton of, in Museum; specimens of, in English collections, with feathers on, ii. 164; was sacred; received universal adoration; two species of, described by Herodotus, ii. 307; black, description of; white, often found embalmed, and with feathers well preserved, ii. 308; Thoth often represented with head and beak of; description of Rosellini's plates of two species of; description of, by Cuvier; the Abou-hannes of Bruce; when the emblem of Thoth, is painted black, ii. 309; death the punishment for killing one, ii. 300; story of, eating serpents, is untrue, ii. 310; said by Plutarch to belong to Hermes (Thoth); Egyptians wrote the first letter an ibis, ii. 366.

Ichneumon, figure of, obtained by Denon, ii. 333; devours crocodiles' eggs, ii. 304.

Iconoclasts, Christian image-breakers, their demolition of innumerable remains of antiquity, i. 40, 41; their fury more destructive of Egyptian art than all the ravages of other barbarians, ii. 326.

Immortality of soul, believed in Egypt; existence of human being after death supposed to depend on preservation of dead body; this the popular belief, ii. 151; when the body decayed the soul lost its place in happy regions, ii. 152.

India, no work on antient buildings of, to be compared with the splendid works on Egypt, i. 127, 181; ground-plans; sections; details and accurate dimensions wanted; views by Daniell, i. 181; is most rich in still-existing examples of superstition; monstrous superstition of antient Egypt, and parallel instances existing in India, ii. 318; curious resemblance to the antient ritual of Egypt in still-existing institutions of India, i. 139; many curious points of resemblance in sacred buildings of Egypt and India, i. 19; comparison of temples of, with those of Egypt, i. 186; Hindoos and Egyptians plastered walls for making reliefs, i. 189; architecture of constructed buildings in, has its original type in the pyramidal form, i. 200. (*See* Architecture.)

Indigo, mode of preparing, in Egypt, ii. 47; used for dying salvages of mummy-cloths; mentioned by Pliny as producing beautiful purple when exposed to heat, ii. 190.

Ink, Egyptian, remarks on; antient, described by Pliny, ii. 267; of papyri, found still very black, ii. 268; initials and portions of MSS. in red, ii. 270, 272.

Inscription (*see* Rosetta Stone); Greek, on temple of Philae, i. 145 (*see* Greek language); Greek text, and translation of that of Balbillus, found before the great sphinx, ii. 376; Greek text, and translation of similar one, in Museum, ii. 381.

Insects, scarabaeus and bee, the only, on Egyptian monuments, ii. 313; dermestes pollinetus, above 270, taken out of a mummy-skull, ii. 107.

Intercolumnial walls at Denderah, more than two-thirds of height of pillars; same in Nubian temples, i. 100.

Interment refused to those who died in debt, ii. 147. (*See* Judgment.)

Ipsambul, description, by Belzoni, of great rock-cut temple of; first opened by Belzoni, i. 130; considered by Heeren to be a tomb, i. 133; description of smaller rock-cut temple of; has been more completely examined than the large one, i. 134; ceiling blue, richly sculptured and painted; older excavations in Nubia, than those of, i. 136; name of Ramses on many parts of; coeval with great Theban monuments; originally called Kerkis, i. 134; attributed to Ramses, ii. 83.

Iron ore, very plentiful in Egypt; art of smelting it, and making excellent steel, of very high antiquity in India; reasons for non-appearance of, among the relics of Egyptian art, ii. 325; sickle of, found by Belzoni at Thebes, ii. 326; implements of, known to antient Egyptians, ii. 321; found, by Mr. Burton, at Hamamy, i. 12; possessed by Egyptians in time of Herodotus, ii. 326; mines of, mentioned by Makrizi Egypt, says Agatharchides, had none, i. 12; oxide of, used for brown and red colour, ii. 47; for colouring glass, ii. 334.

Isis, worship of, probably descended the Nile from higher regions near Abyssinia, i. 109; was venerated under form of cow, ii. 289; figure of, is a female with horns of cow, ii. 295 (*see* Deities); all figures of, wear mantle in peculiar fashion, ii. 22; description, by Winkelmann, of the form and dress of three Greek, Egyptian, and two Greek statues of; figure of, holding horn of abundance, ii. 20, 21; uncertain when statues of, were introduced into Greece; temple to, built at Rome by Augustus, ii. 24; temple of, at Western Thebes, i. 237; at

Debod, i. 144; at Ombi, i. 67; at Mount Barkal, of Typhon and, i. 161; figure of, in adytum of Mount Barkal, i. 162; temple of, at Denderah, whether built in time of Aurelius, i. 36; ruins of magnificent temple at Bebek, probably dedicated to, i. 43; seated figure with expanded wings, on mummy-cases, generally called, ii. 130; wooden cow, with gilded orb on head, representing, i. 371; colossal figures at Ipsambul supposed to represent, i. 135; statue of, not allowed to be seen by Pausanius, i. 73; subdued Typhon, i. 168.

Isis-headed capitals and pillars, one of the most common of all the sacred architectural forms of Egypt; is traceable to site of Meroe in Nubia, i. 168; Denderah pillar, i. 58, 105; remarks on, i. 108, 109; called Athor-headed, ii. 22. (*See* Capital.)

Israelites, some of the pyramids probably built by, i. 20; left Egypt in time of shepherd-kings, i. 30.

J.

Jacob, embalmed by command of Joseph; carried from Egypt to Canaan in great state, ii. 99.

Jars, or urns, Egyptian, sometimes contain sacred animals; several specimens in Museum; commonly called canopi; surprising freshness of; porous, used by antient Egyptians for cooling Nile water; great numbers still made in Egypt; appears in Egyptian and Hindoo zodiacs, ii. 25, 26, 27; large collection in Museum of earthen, used for embalmed birds; many in tombs of Abousir, ii. 164. (*See* Vases, Quolleh.)

Java, remains of large temples in; the most splendid at Chandisevu; contains marble statues of gods; gigantic statues at entrance, like watchmen, i. 290; interior of Java is rich in monuments of Indian architecture and sculpture; largest edifices of, at Branbanan; colossal statues at entrance, like watchmen; principal temple is pyramidal, i. 189.

Jews faithfully represented with long beards in painting in tomb of Thebes, ii. 174.

John, Professor, of Berlin, his chemical analysis of Egyptian colours, ii. 46; his experiment on a layer of Egyptian glue or varnish, ii. 51.

Joseph, was embalmed in Egypt; was carried by Israelites forty years in their wanderings; finally deposited at Shechem, ii. 99.

Judgment of the dead in Egypt, account of, by Diodorus, ii. 147; moral effect of, in excluding from privilege of interment, ii. 148; not mentioned by Herodotus; evidence of monuments show it to be part of the genuine religious system of Egypt, ii. 149; important civil object of this institution; a powerful instrument in hands of priests, ii. 148; kings not exempt from, ii. 150; from that observed before interment arose the notion of another, before admission into the happy abodes of rest; dead admitted to happiness only after having stood this trial before the judge below, represented on rolls of papyri; example on mummy-case in Museum, ii. 151; another in Denon, explained by Heeren; figure weighed in scales, ii. 152; body taken across a lake or pond, as part of funeral rites; boat containing body in mummy-chest recurs often on papyri, tombs, and temples, ii. 150, 271.

Julius Africanus, chronicles of, i. 26.

Jupiter, Ammon and Zeus the same as; Diospolis, or Thebes, was the great city of, i. 95; tombs at Thebes of the females sacred to, i. 238.

K.

Kalapshé, description of historical sculptures in temple of, possessing surpassing interest, i. 392.

Kennedy, Dr., his description of the Hindoo method of polishing granite, i. 206.

Keroun lake, supposed outlet of the waters of, i. 10.

Kings, Egyptian, series of, from Diodorus to Herodotus, i. 23, et seq.; discrepancy of their accounts, i. 25, 26; dynasties of, i. 27, et seq.; early, possessed both royal and priestly dignity, i. 293; shared attributes of the gods, i. 105; bound by the hierarchy to practise strict and daily religious duties, i. 85, 174; in Ethiopia and Egypt their acts were prescribed by the college of priests; yielded implicit obedience, and quietly submitted to death, i. 174; portraits of, extant as far back as Amenhof, Thutmes, and Ramses, ii. 79, 80, 81; individual likeness evident in portraits of, ii. 80; family likeness, ii. 81; names of Egyptian and Greek, were put on buildings erected or repaired by them, i. 86.

Kissing the feet, representation of a man kneeling down to another, ii. 56.

Kouft, the antient Coptos, i. 61.

L.

Labour, prodigious expenditure of, required by the religious system of Egyptian, i. 126; patient and never-tiring spirit of the Egyptian sculptor and painter, i. 127; ii. 135, i. 384.

Labyrinth, i. 54.

Languages (*see* Alphabet); remark upon the words of, as possessing or not the sign of relation, ii. 369, 370; two distinct, used in Egypt; the hieroglyphic and enchorial, not identical, but radically distinct, ii. 371; definition of alphabetic, ii. 372.

Law-suits, wooden statues representing people engaged in, i. 240.

Lead, exists near Mount Sinai; remark of Belzoni on a kind of; less common in Egypt than gold; antient mines of, existing in Egypt; etymology of the name of, ii. 327.

Leather, art of making, known to Egypt, ii. 339. (*See* Shoes.)

Leiden, Egyptian Museum at, is particularly rich in papyrus MSS.; contains 147, 20 of them in Greek; is formed chiefly of the collection of M. Anastasy, ii. 281.

Leo Africanus, his Mohammedan testimony concerning the tomb of Alexander, ii. 140.

Leontopolis, the Lion-City, was in the Delta; Diodorus speaks of a living lion maintained and reverenced there, as Apis at Memphis, i. 229; is not mentioned by Herodotus, ii. 297; another city so called in Phœnicia, i. 231.

Level, mode of ascertaining in India, by a drop of water, i. 310.

Library, sacred in Palace of Osmandyas, remarkable inscription on, i. 240.

Libyan Desert, ancient buildings found in the, i. 128.

Light, none in the temples, except through small apertures in roof, i. 73; square holes to admit the, apparently made at a later period, i. 74; small light-holes in vertical sides of upper roof of Carnak temple, i. 90; large chambers, without light, covered with sculptures, in Indian temple at Chalembaram, i. 185; in pagoda of Tanjore, a hall without light, except from lamps, i. 188; temple of Elephanta dimly lighted only by the entrance, i. 178; curious effect of light and shade at Philae, i. 147.

Lime white-wash, on walls of tombs, beautiful as finest white paper, ii. 49; made of shell lime-stone, ii. 50.

Linen (*see* Swathing, Cotton, Byssus, Mummies); important branch of Egyptian export-trade before time of Herodotus, ii. 262; of Egpyt, in high repute in Greece in time of Herodotus; large article of export; fine linen of Egypt spoken of by Ezekiel; fine as muslin on higher class of mummies; specimen of this described by Mrs. Lushington, wrought with gold lace, ii. 340; on mummies, generally coarse; old, used for this purpose, ii. 339; large pieces of, found lying beside mummies, ii. 117; vest of, usually interred with the body, ii. 118; said by Herodotus to have been buried with the wearer, ii. 126; origin of the word *σινδων*, used by Herodotus, ii. 127; his description of garments of, ii. 118; Irish microscopic examination of; tubular structure of fibre joined like cane or bamboo, ii. 191. (*See* Flax.)

Lion (*see* Leontopolis), not found in Egypt, but in Libyan desert; probably originally in valley of Nile; high antiquity of worship of, is doubtful; said to have been emblem of Phtha (Vulcan), ii. 297; was found, in time of Herodotus, in northern Greece, Thrace, and Macedonia; more widely diffused than any other wild animal of the feline race; form of, familiar to every civilized country; used commonly for ornament and mark of superior rank; imitation of form of the, among the earliest works of art; Crœsus sent one of gold to Delphi; lions of bronze and iron among works of Grecian art; lions of the gate of Mycenæ, the oldest specimen of Grecian sculpture, i. 230; Egyptians delighted in appropriating form of, for sofas and couches, ii. 107, 339; represented in Egyptian sculpture with great fidelity and spirit; was familiar in the earliest times to the Greeks in its natural and imitated forms, i. 231; few sculptures of, exist in Lower Egypt belonging to an epoch anterior to the Greek dominion, i. 228; the two granite, in British Museum; brought from Barkal by Lord Prudhoe, ii. 297; description of one of them by Rüppel, i. 162; colossal, placed at entrance of temples, is a usage perfectly Hindoo and Egyptian, i. 228, 291; two, seen by Abdallatif at Memphis, which inspired fear, i. 291; one, kept by Osymandyas; represented fighting at his side, i. 239; picture of lion-hunt at Medinet Abou, i. 390; was worshipped at Leontopolis, time of Diodorus, ii. 289; four monstrous, at entrance of Pagoda of Conjeveram, i. 201; never was in Thibet, i. 226.

Lips, Egyptian, described, ii. 11; of Egyptian figures, usually wear a smile, ii. 55; thin, of a female Egyptian mummy, ii. 98. (*See* Mouth.)

Loom, Egyptian, representation of, from a tomb, ii. 190.

Lotus-flower (*see* Capital), symbol of immortality, ii. 152; ornament of, on chairs, i. 279; lotus-leaf capitals, i. 67; most important in the religion and economy of Egyptians, i. 106.

Lucas, P., his visit to, and description of, the tombs of Abousir in 1714, ii. 164; not always to be depended on, ii. 242.

Lushington, Mrs., account given by, of Signor Piccinini's nine years' residence at Thebes, ii. 169; her ascent of the great pyramid, ii. 207.

Luxor, El Kusr, the ruins, description of, i. 63, and 81 to 87; one of the old genuine edifices of Egypt; the centre of inland traffic, i. 83; erected when Thebes was the residence of the native monarchs; no part of, apparently designed for religious purposes and priests, i. 84; considered by Heeren and others to be a palace or civil edifice, i, 85; description, by Hamilton, of the sculptures of a battle-scene on the propylon, i. 64, and 385 to 389; resembles those of Homer; the performance, except the perspective, is worthy of an Angelo or Romano; probably refers to triumph over the shepherd-kings and Ethiopians, i. 389.

M.

Madder, used for dying mummy-cloths a reddish colour, ii. 48, 121, 189.

Mahabalipuram, colossal remains of; conjectured to be the site of a town called by Ptolemy, Maliarpha, i. 193.

Maize, a figure in Museum, holding something like a head of, ii. 27.

Man or Manus, in the Hindoo mythology, is the first man; the Egyptian Menes or Men; the Greek Minos, and the German Mannus, i. 29.

Manethon, extracts from his history of the kings of Egypt, in Josephus, against Apion, i. 26; dynasty of, contains three Ethiopian sovereigns of Egypt, i. 172; Egyptian Annals faithfully put into Greek by, i. 27.

Maps, painted on skins by North American Indians, ii. 262.

Matarie, or Heliopolis, description of an antient interesting obelisk at, i. 316, et seq.; its spring of fresh water, i. 47.

Mechanical powers, complicated, not employed by Egyptians for raising stones, i. 364; story of a machine, i. 311. (*See* Obelisk, Colossi.)

Medinet Abou, buildings of, supposed by Pococke and Hamilton to be the Memnonium of Strabo; description, by Heeren, of a curious rectangular enclosure; inverted hieroglyphics at, i. 236; magnificent peristyle court at; detailed description of pillars in, i. 104.

Medinet el Faioum, formerly Arsinoe and the City of Crocodiles; ruins of, i. 54.

Memnon, not easy to say who he is; Homer, Diodorus, and Pausanias, cited concerning; is the Greek name of Phamenoth, or Phamenoph; Coptic etymology of; Amenophis, in Manethon, said to be Memnon, i, 267; son of Thutmosis, who expelled the shepherds, i. 268; a builder and conqueror; Amenothph written on back of great statue of

Memnon, at Thebes; and on that in Museum, with his title, the Sun, Lord of Truth; royal legend of, found at Soleb; name of, on temple of Cnuphis, in Elephantine, i. 269; impossible to reconcile the mythol. traditions of; probably has a real historical origin on banks of Nile, i. 270; musical statue of, identified with the northernmost of the two seated Colossi at Thebes, i. 258 to 266; account of, by Strabo, i. 258; by Philostratus, i. 283; by Pausanias, i. 259; originally a monolith, i. 381; inscription on his legs, commemorating names of many who heard the sound, i. 262; sound compared by Pausanias to that of a harp-string, i. 259; is the corrupted Greek form of Phamenophis or Phamenoth, the name of several antient Egyptian monarchs, i. 265; earliest notice of this vocal statue is in Strabo and Annals of Tacitus; the sounds conjectured to be a trickery of the priests; Humboldt speaks of, and accounts for similar sounds on the rocky banks of the Oronoko at sunrise; French savans heard such sounds at Carnak, i. 266; head of, in Museum; its removal from Thebes, by Belzoni, i. 244 to 250; hole drilled in right breast by the French to blow off the shoulder, i. 247; expenses of removal defrayed by Salt and Burckhardt; description and dimensions of; is one of the finest specimens of Egyptian colossal sculpture now known, i. 11, and 251 to 253; has no claim at all to be considered the Memnon of Strabo and Pausanias, i. 257; conjectured by Hamilton to be that described by Philostratus, i. 266; one in Mus. a copy of the Colossus at Thebes, i. 275; proportions of, i. 280; where found by Belzoni, i. 237, 281.

Memnonium of Strabo, behind the two seated Colossi at Thebes, i. 282; at Susa, i. 267. (*See* El Meçaourah, Medinet Abou.)

Memphis, (*see* Metrahenny, Hephæstus,) said by Abd-allatif and Makrizi to have been a flourishing city long before time of Abraham, i. 33; great temple of, received numerous additions during long succession of ages, i. 65.

Mendes, the god, considered by the Greeks same as Pan; goat sacred to, at city of Mendes in Delta; was the Egyptian word for goat, says Herodotus; same as Mandoulis; emblem of productiveness; most obscene of Egyptian deities; probably alluded to by Moses; one of the eight oldest deities of first class, ii. 296.

Meroe, site of the antient far-famed Ethiopian metropolis, near Chendi, i. 167; Egyptian sculpture traced to, i. 168; Merawe, near Mount Barkal, not the antient, i. 159;

people of, worshipped Zeus and Dionysius (Ammon and Osiris); were directed by oracle of Zeus, i. 176; sovereigns of, were held in complete subjugation by the hierarchy, i. 174; deities of, descended the Nile to the Delta, i. 176; ruins of the observatory of, i. 173; people above, worshipped Isis, Pan, Hercules, and Zeus, i. 169.

Metals, mines of gold, copper, iron, lead, were worked in time of Pharoahs, ii. 321; art of working, possessed by Egyptians before Babylonians, i. 119; represented in painting, ii. 328, 329. (*See* Gold.)

Metrahenny, description of; is the site of Memphis, i. 51.

Mexican sculpture, in general not much resemblance of, to Egyptian; comparison of clay figures; drawing by Humboldt of a bust resembling Egyptian head-dress, ii. 22.

Mines, Egyptian, gold and silver, yearly produce of, in time of Osymandyas, i. 240. (*See* Metals. Stones, precious.)

Mœris, King, era of, 1350 B. C., i. 26; Lake, now Birket el Keroun, i. 7; saltish, i. 53; made, says Herodotus, by man; two pyramids in, surmounted with Colossi, ii. 241.

Mohammedan conquest of Egypt fatal to antient monuments, i. 39.

Monkey, found embalmed; probably a sacred animal; not mentioned as such by Herodotus or Diodorus, ii. 298; twenty-one colossal, at Ipsambul, i. 133, ii. 298; found commonly on monuments; row of, sitting, on great sarcophagus; tragical story about sacred monkeys in India, ii. 298, 299; group of four granite, sitting, i. 221.

Monolith temples, description of, i. 190; description of a marvellous one at Memphis, called the green chamber, i. 196; golden statue in, i. 290; broken up to build Mohammedan convent; two in the sanctuaries of great temple of Philæ, i. 197; some had pyramidal tops, i. 194, 198; sometimes used to hold sacred animals; Hamilton's description of one at Gau Kebir; enormous one seen by Herodotus in the Delta; insulated rock at El Modu, excavated into a temple, i. 198, 199; description of, at Tel Etmaie, i. 49, 193; generally placed in adyta, i. 73; two in sanctuary of Debod, i. 144; description of, at Mahabalipuram, i. 191, 192; largest not now found, i. 193. (*See* Ellora, Amasis.)

Monuments, Egyptian, important to classify and assign them to their different epochs, i. 141; monument of London less imposing than an obelisk, i. 299.

Mounds of earth, in progress of art, preceded pyramids, ii. 255; most enduring of all monuments; examples are, tombs of Scythian kings on the Borysthenes; mound of

Halyattes, near Sardis; Silbury Hill in Wiltshire; practice of raising great mound over dead body is universal; Persian mound at Acanthus, ii. 256; high, round the site of Memphis, i. 52; and Arsinoe, i. 54. (*See* San, Tel Artrib, Tel Basta.)

Mount Barkal, remains of numerous buildings, some of high antiquity; the site of an antient city and establishment of priests, i. 159; description of great temple of, i. 160; temples partly excavated, i. 161.

Mouth, Egyptian, placid expression of, ii. 11; being turned up is characteristic of antient Egyptian statues, ii. 18. (*See* Lips.)

Mummies, origin and signification of the name; Abd-allatif's description of bituminous matter, called *momie*, taken from embalmed bodies and sold; supposed to be white pitch and myrrh; account, by Sir W. Ousely, of a mineral pitch, called *mummy*, oozing from a rock in Persia; ant. Egyptian name for mummies was *gabar*, ii. 145; existence of, south of Philæ, not known to Heeren, ii. 248; evidence from Gau of their existence in Nubia, ii. 251; of poorer classes, were ten to one of the better class; were not put into cases; were dried in the sun; piled up in layers; crowded in rudely-excavated caves; were put merely into dry pits and holes, ii, 105, 128; description of linen shell of better kind of, ii. 128; description of the outer and second wooden case; mummy-coffin of unusual form, with Greek inscription, ii. 129, 130; is an instance of interment ten months after death, ii. 131; mummy-cases, paintings on, representing the ritual and judgment of the dead, ii. 130; description of an enormous one of a female, in Museum, ii. 132; various colours used for face on; one in Museum, with flesh-coloured face and black eyes, ii. 133; prodigious quantity of; during many centuries, have served the Arabs for sale and fuel, ii. 165, 169; six camel loads of broken, brought by Arabs to Minutoli at Thebes, for fuel, ii. 169; tombs of Thebes, an abundant repository of, ii. 166; makers of, were distinct from embalmers, ii. 104, 123; mummy-dealers in Egypt designedly mislead travellers; their mode of life about the tombs, ii. 167, 168; mummy-cloth generally coarse; old cloth used; fine as muslin on best mummies; specimen of this described by Mrs. Lushington; wrought with gold lace, ii. 339, 340; used by the Arabs for clothing, ii. 143; sold by them for the making of paper, ii. 144; only decisive test of the material of is the microscope, ii. 187; microscope, experiments on, by Mr. Bauer, proving it to be always *linen*, ii. 188; by Messrs. Bowerbank, Williams, and Dr. Ure, ii. 191 to 193; Rosellini's opinion of its being *cotton* proved to be erroneous, ii. 182 to 193; specimen of, minutely described by Mr. Thompson; colours of, and dyeing materials, ii. 189, 190; mummies of relatives given as security for borrowed money; not to redeem them was disgraceful; incurred the loss of rite of burial, ii. 148; said by Herodotus to be placed upright; not seen upright by Belzoni, ii. 131; but lying in horizontal rows; eight found in original position, all facing the east, ii. 132; placed upright in private houses, ii. 147; ancestors kept for many centuries, ii. 149; tablet in Museum, representing mummies upright, and females visiting them, ii. 132; names found on, ii. 122 to 124; Greek inscription on, ii. 124; papyri found on, ii. 261, 266; flesh of, found firm and red, ii. 165; sandals and bracelets found on; those of important personages described; great difference in style of execution; some with old linen, much worn and darned, ii. 120; curious glass-like substance found in costly, ii. 335; glass beads found on, ii. 332; eyes replaced by linen, glass, porcelain, and fine enamel, ii. 115, 120; many found gilded; are not dry and brittle, but tough and flexible, ii. 113, 114; female, are found with long beautiful hair; males have head, beard, and sometimes eyebrows close shaved, ii. 115; Leeds mummy supposed to be a priest, ii. 115; Villoteau's description of a female, ii. 97; arms of male, crossed on breast; of female, extended at sides, ii. 99; red and white bandages; description, by Minutoli, of one in its full swathings, ii. 120; small wooden and porcelain figures found with; scarabæi of stone, papyri, and small objects; most curious discovery of a portrait, ii. 121; professional instruments buried with the body ii. 326; brain found extracted, ii. 106; account of insects found in skulls, ii. 107; poor people get a living by ransacking tombs, ii. 165; mummies of cat and serpent, ii. 192.

Museum, British, large additions made to the Egyptian antiquities of, since the writing of the first volume of the present work, ii. 42.

Musical instruments, represented in painting, wind and stringed, and harps, ii. 339.

N.

Naga, in the Nubian desert, Heeren's description of the large temple of Ammon at, i. 169; Cailliaud's description of the smaller one, i. 170.

Natron (nitre), valley of lakes of, described, i. 10; embalmed bodies placed seventy days in, ii. 100; procured in abundance in form of carbonate of soda, ii. 112.

Nebuchadnezzar invaded and ravaged Egypt, i. 32.

Necklaces, worn generally by Egyptians; description of, ii. 84.

Negro, face of Egyptian statue in Museum resembling, ii. 11; negro-profile of four Ethiopians in a painting of Theban tomb, ii. 174.

Niebuhr, the elder, minute accuracy of, in copying sculptures, i. 324.

Nile, description of the course of the, and of the hills which bound its basin, i. 6, 7, 10; causesof in undation of, i. 13; agricultural operations dependent on rise of, i. 14; physical peculiarities of, influenced religious system of Egypt; was deemed sacred, i. 15; only two navigable branches at present, the Rosetta and Damietta, i. 6; rapids of, between Elephantine and Philæ, caused by granite rocks and islands; a commercial centre and depôt, i. 68; mud of, used for seals, ii. 121; called in a Greek inscription *ὁ θεὸς*, ii. 377; persons drowned in, were embalmed, and interred in sacred tombs, ii. 104.

No of Ammon, whether Thebes, i. 40.

Nöhden, pamphlet of, on Memnon's head in Museum, i. 247.

Nomadic tribes plundered Egypt under the Assyrian monarchs, i. 40.

Nose, Egyptian, described, ii. 9; beautiful, of female mummy, ii. 98.

Nubia, monuments of, admirably illustrated by Gau, i. 41; are of higher antiquity than any building at Thebes; gradual growth of temples in, is a fact of much importance, i. 143; is the key to the correct understanding of Egyptian art and history, i. 144; Lower, was the cradle of Egyptian architecture, whence all its types were derived, i. 129, 130; most antient monuments of, are indigenous; certainly not derived from India, i. 202; Upper, has same style of building as Lower; origin of Egyptian arts and civilization was in, i. 151; excavated temples of, similar to those of Elephanta and Salsette, i. 18; many of the pyramids of, appear to have been temples, i. 100.

O.

Oasis, of Ammon (*see* Wady Sivah); Magna (*see* Wady el Khargeh); were occupied first by people same as Egyptians; then by Greeks, Romans, and Christians, i. 128.

Obelisk, etymology of, i. 355; said by Pliny to represent a solar ray, ii. 257; definition of, i. 298; are the most admirable of Egyptian works of art; high historical value of, as recording names of antient monarchs, i. 296; largest are all made of red granite of Syene; are placed in pairs before the propyla of temples, i. 70, 299; sometimes within temples, but still before doorways; small ones in temple of Ellora; large, produce imposing effect, i. 299; none in Lower Nubia; are found in Egypt, from Philæ to the Mediterranean, i. 142; cause of no large obelisks in Nubia, i. 323; small one found seventy miles south of Suez, i. 323; description of the two Cairo obelisks in the Museum, i. 51, 324 to 328; those at Catana, in Sicily, probably not genuine Egyptian; that of Arles, i. 328; description of three at Constantinople, i. 329 to 333; singular obelisk in Asia Minor, i, 334; several at Axum, in Abyssinia, i. 321; that of Medinet el Faioum described; has circular top, i. 54, 318; two at Heliopolis, described by Abd-allatif, had copper caps, i. 47, 48; the one remaining described; is one of the most venerable monuments of Egypt, i. 316 to 318; description of the two of Alexandria, one only (Cleopatra's Needle) now standing, i. 301 to 304, 311; mode of cutting from the rock, of transporting and erecting, i. 304 to 312, 338; of Seringapatam, its erection, appearance, and polishing with corundum, i. 307 to 311; that of San, or Tanis, i. 313; cubical base is no part of, i. 301; Strabo mistaken in saying obelisks were placed in tombs, i. 350; conjectures on the use of; are generally covered with hieroglyphics, i. 351, 352; twelve at Rome, history and description of, i. 335 to 341; the highest is the Lateran; perhaps the largest in the world; originally stood at Heliopolis; translation of its six inscriptions, i. 336 to 341; the second is the Vatican, i. 342; the third, the Flaminian, i. 343; the fourth, that of Monte Citorio, i. 343 to 348; is the most beautiful one at Rome; used by Augustus as a sun-dial, i. 345, 346; the Barberini obelisk, i. 348; the Minervean, i. 349; the Benevento and Borgia are probably Roman imitations; the two at Florence, i. 349, 350; dimensions of the twelve Roman, and the dates of their restoration by the Popes, i. 353 to 355; three, 70 feet high, at Carnak, i. 90; four beautiful, before the adytum, i. 92; two, the most perfect that exist, at Luxor, i. 63; the smaller one has been conveyed to Paris; account of its removal, ii. 375; Mr. Bankes', where erected, ii. 376; sculptures on, show the careful and painful labour of Egyptian artists, i. 384; Pliny's account of a large one saved from conflagration by Cambyses, i. 32.

Oil, art of mixing colours with, probably known to Greeks and Egyptians; made by Egyptians in large quantities, ii. 50.

Ombi, now Koum Ombou, magnificent temple at; odd number of pillars in portico; no propylon in front; Greek inscription over adytum-door; dedicated to great god Aroeres Apollo, i. 67.

Oracle, of Zeus (Ammon), at Meroe, spoken of by Herodotus; people of Meroe made expeditions whenever and wherever ordered by, i. 176; King Sabacos evacuated Egypt by command of, i. 172; etymol. of, i. 160. (*See* Ammonium.)

Orphic and Bacchic rites, according to Herodotus, were Egyptian; followers of, did not bury in woollen vests, ii. 118.

Osiris, same as Dionysus, i. 176; venerated under form of bull, ii. 289; presided, with Isis, over world below, ii. 151; represented sitting as judge of the dead below; usual attributes of, the high cap, whip, and crosier, ii. 152; sometimes represented with horns of bull, ii. 295; sufferings of, represented by night on tank of Sais, ii. 150; the four forms in which he appears with the artificial beard, i. 255; colossal figure of, at Ipsambul. i. 133; with horns, i. 135; caryatid figures of, at Carnak, i. 90; led a colony from Ethiopia to Egypt; was murdered by Typhon, i. 168; tomb of, at Athenæa, ii. 151; often seen with horns, i. 265; name of, not utterable by Herodotus, ii. 100.

Osortasen, royal name occurring on obelisk of Heliopolis and other monuments, i. 317.

Osymandyas, tomb or palace of, described by Diodorus, i. 238 to 241; description of great colossal statue in; wrongly called the Memnonium, i. 255; is the only great Egyptian building minutely described by antient writers; Museum Memnon brought from, i. 237; inscription on enormous colossus of; marched against Bactrians with 420,000, i. 239; identity of the edifice described by Diodorus, with existing ruins at Western Thebes, i. 241 to 244; fragments of enormous sitting colossus remaining there, i. 242; not mentioned by Herodotus or Manethon; possibly is a name of Sesostris, Mandon, or Smendes, i. 244.

Otaheite cloth, microscopic examination of, ii. 191.

Owl, common among Egyptian sculptures, ii. 312.

Oxen, representation of sacrifice of, in tomb of Osymandyas,

i. 240; heads of, seen by Lucas in tombs of Abousir; one embalmed, from Sakkarah, and at Abousir; carcase of, preserved in gilded and painted chest; skeletons of, in tombs of Abousir, ii. 164, 165; represented ploughing, ii. 162. (*See* Bull.)

Oxides of metals, use of, for colouring, well known to antient Egyptians, ii. 320.

Oysters, fossil, in the highest points of the calcareous rock on which the great pyramids stand, ii. 203.

P.

Pagoda, a corruption of Bhagavati, holy house, i. 183; those of India, perhaps, exceed, in dimensions and finish, the most wonderful specimens of Egyptian art; most common form of, is the pyramidal; description of that of Chalembaram, one of the most remarkable; contains an enormous hall, with more than 1,000 pillars, i. 184; those of Devagiri, near Ellora, are among the oldest; description of the great, at Tanjore; is the finest specimen in the pyramidal form in India, i. 187, 188; truncated pyramidal, on island of Remisseram, i. 188; sevenfold enclosures of those of Seringam, like Ecbatana; similar in Java, i. 189.

Paint, was extensively used by Egyptians in pictures, surfaces of temples, colossal statues, and sculptures, ii. 44; several coats of, on figures in Museum, ii. 50, 53; great sphinx painted red; first coat yellow, ii. 244; copper much used as material for, ii. 323.

Painting, origin of (*see* Sculpture); process of, on reliefs and walls, ii. 48, 49; on wood and loam, ii. 50; our knowledge of, derived chiefly from tombs and mummies; architectural uses of; of less antiquity than sculpture, ii. 44; simple colours were not compounded, softened, or blended, except in animals, ii. 45; Gau's opinion of the badness of Egyptian painting, i. 150. (*See* Colours.)

Paintings, vivid colours of, ii. 320; in Museum, from grottoes in western hills of Thebes, ii. 55 to 78; one representing cattle, ii. 56 to 58; bird-catching, ii. 58 to 60; flocks of geese, ii. 60 to 62; man with mallet and chisel, ii. 63 to 65; figures with rabbits, a fawn, and sheaves of barley, ii. 67; party of females, ii. 67; horses and cars, ii, 71; garden, pond, fish, geese, and ducks, ii. 73, 74; male and female figures on elegant chairs, naked figures dancing, table of fruits and flowers, ii. 74 to 76; an entertainment, females sitting with arms about shoulders of males, tables of eatables, ii. 76 to 79; some found by Belzoni in great Theban tomb, extremely interesting; description of one of them, representing procession of people of four different nations, ii. 173 to 175; description of a portrait found on a mummy, an excellent specimen of Egyptian face-painting, ii. 121; those representing sculptors and painters at work are commonly found, ii. 66. (*See* Ducks.)

Palaces and public buildings, similarity of, in plan and ornaments; contained chambers for the priests; and for religious services; walls of apartments for domestic use, painted with scenes of daily life, i. 85, 86.

Pallades, παλλάδες, figures of two in Rosellini; reference to Strabo concerning, ii. 87.

Palm (*see* Doum); palma Thebaica, royal standard in form of, on temple of Luxor, i. 386; plantations of, in Egypt, ii. 201; grove of, surrounding temple of Gau, i. 56; form of palm-tree in pillars at Sais; palm-leaf, ornaments of capitals often occur, i. 103; capitals decorated in imitation of branches of; type of pillars, palm-trees bound together; instances at Gorganto, in Nubia, i. 155; palm-wine used in embalming, ii. 113; row of palm-trees at Luxor, i. 214.

Papyrus (*see* Byblos), name of water-plant, the common writing-material of Egypt; great variety of papyrus MSS. in European collections, written mostly in antient Egyptian language; those in Greek most interesting, as oldest comprehensible records; age of papyri on mummies not ascertainable; enchorial specimen in Vatican, dated 640 B.C.; several rolls at Paris and Turin of age of Darius; was important article of Egyptian export-trade before time of Herodotus; his description of the plant; lower part was eaten; shoes made of top, worn by priests; boat-sails made of it, ii. 261, 262; use of, increased after Greek possession of Egypt; was, for many centuries, an important branch of commerce; in most demand as writing-material; immense quantity of, found in Herculaneum; high imposts on imported papyrus abolished in sixth century by Theodoric; letter of Cassiodorus on the occasion, ii. 263; was used in Italy until eleventh century; gathering of, represented in a painting; grows in swamps; is now scarce in Egypt; still exists near Damietta; is the cyperus papyrus of Linnæus; grows well in Kew Gardens, ii. 264; preparation of, described by Pliny; papyrus MS. of Iliad, from Elephantine; great variety of modes of preparing; a Sicilian water-plant resembling it, used for paper; papyri vary more in length than breadth, ii, 265;

one 30 feet long; mode of unrolling, ii. 266; are not injured by immersion in hot water; admirable durability of; caused by exclusion from air; rolls found, sealed up at each end; colour of, is a brownish-yellow; Dr. Hogg's beautiful specimen; description of Egyptian ink on papyri, ii. 267; strokes of writing on, like those of common pen; probably used goose-quill; it is clearly seen on a painting, ii. 268 (*see* Writing); description of enchorial and hieroglyphic writing on papyri, ii. 270; drawings on; specimen of enchorial, ii. 271; written roll of, found at foot of mummies, ii. 121; Arabs sell those they find on mummies, ii. 168; one possessed by Dr. Hogg, rolled in leather case, ii. 280; painting, representing men rolling up sheets of, ii. 272; Museum at Leiden possesses 147, of which 20 are in Greek, ii. 281; description of two very curious, relating to magic rites, ii. 281 to 284; translation of one relating to sale of land, 106 years B.C.; in good preservation after 1,930 years, ii. 274, 275; account and translation of another, Mr. Grey's, in Museum, concerning contract for dead bodies, ii. 276 to 279; description of Dr. Hogg's, of the Psalms, sewed like copy-book, ii. 279, 280; specimen of it, ii. 383; text of, and notes on, Mr. Grey's, ii. 381.

Parchment succeeded use of papyrus, ii. 264.

Pastophori, i. 377, 379.

Pausanius not permitted to see the statue of Isis, i. 73.

Pediment, absence of, above the entablature in Egyptian temples, i. 101.

Pen, painting representing figure using a, ii. 268; placed behind the ear, ii. 272.

Perspective, Egyptian; Greek and Roman artists were ignorant of, at least did not observe, i. 285; specimen of the absence of, in Egyptian paintings, ii. 62.

Persian conquest of Egypt, 525 B.C., i. 31, 65.

Peruvian gauze from sepulchre in Peru, microscopic examination of, ii. 192.

Peter the Apostle, a bas-relief of, in the temple of Seboua in Nubia, with yellow hair and red slippers, i. 38.

Petroleum, a production of the eastern desert of Egypt ii. 332.

Pettigrew, Mr., very beautiful Egyptian female head in possession of, ii. 98; History of Egyptian Mummies by, ii. 107.

Philæ, island of, one of the richest spots of Egypt in architectural beauty, i. 145; description of temple of, i. 146; curious effect of light and shade at, i. 147; possesses noble monuments of antient art in great profusion, i. 68.

Philosophy, of Egypt, said by Pliny to be inscribed on obelisks of Rome; Hermapion's translation of these inscriptions exhibits but little, i. 341.

Phonetic value of pictorial symbols, how determined, ii. 346 to 348. (*See* Champollion, Young, Zöega, Alphabet.)

Phtha (Vulcan), fire, lion said to have been symbol of, ii. 297; and vulture, ii. 311. (*See* Hephæstus.)

Physiognomy, Egyptian, not easily ascertained from existing sculptures, ii. 8; detailed description of peculiarities of, ii. 9; the observance of, important for assigning age of sculptures, ii. 17.

Piccinini, Signor, residence of, at Thebes, nine years in a hut made of mummy-chests, ii. 169.

Pillars, Egyptian, characteristics of, i. 97, 101, 111; complete specimen of, in Museum, i. 114; blocks of, morticed together, i. 113; proportions of, compared with the Greek, i. 101; those of temple of Jupiter at Girgenti, 12 feet diameter, i. 102; no resemblance between Egypt and Hindoo, i. 189; description of those of Elephanta, i. 179, 180; octangular, in temple of Salsette, i. 182; quadrangular, with Isis and Typhon ornaments, i. 129, 135, 167; of calcareous stone, i. 151; some of sand-stone streaked with red, i. 154; of noble granite at Cairo, brought from antient temples, i. 49; fifty-six, of marble, at Sumnat, inlaid with gold and jewels, i. 290; in King's Library, British Museum, mode of polishing, i. 310. (*See* Columns.)

Pliny, his obscure manner; a careless compiler, i. 311; all the Egyptian names used by, are corrupted, i. 343; his inclination for the marvellous, ii. 220; want of distinctness in most parts of his valuable collection, ii. 196; his description of the transportation of an obelisk, i. 311.

Ploughing, representations of, with two oxen; with figures sowing and reaping, remarks on, i. 14, ii. 162.

Polish, exquisite, of Egyptian figures of hard granite; surpassed by that of the walls and pillars of Hindoo temples, i. 205; account, by Dr. Kennedy, of Hindoo method of producing, i. 206; preserved so long in Egypt by dryness of atmosphere, i. 357; specimens of, in Museum, i. 310, ii. 36, 37.

Porcelain, found in great quantities in Egypt, i. 370, ii. 333.

Porphyrius, his account of the embalming ceremony of thowing the viscera into the Nile, unworthy of credit, ii. 109.

Porphyry, plentiful in Egyptian deserts; sculptured blocks of, ii. 330; temple of Elephanta excavated in rock resembling, i. 178.

Portico, origin of, i. 111; characteristics of, . 97; that at Edfou, i. 70; et Ashmounein, i. 55.

Portraits, Egyptian, extant of Egyptian kings as far back as Amenof, ii. 179; are repeated on various monuments; have a marked individual character, ii. 80, 81; description of several, in Rosellini, ii. 83; curious one found on a mummy, ii. 121; portrait-painting common among Greeks about epoch of Alexander, ii. 79.

Pottery, enormous quantity of, broken, found on sites of antient Egyptian cities; elegant and beautiful forms of common utensils an evidence of social refinement, ii. 338.

Priapic figure, No. 5, in Museum, ii. 42.

Priests, accounts of Herodotus and Diodorus derived directly from them, i. 23, 27; their historical records; degenerate state of their caste when Greeks visited Egypt, i. 397; despotic influence of the college of Ethiopian and Egyptian over their kings; at Meroe, ordered their Sovereign to die, i. 174; kept art in check lest it should violate fixed religious forms, i. 385; in refinement of notions, and habits of cleanliness, differed from the vulgar, ii. 294; they only, and kings, could enter the inner parts and the adytum of the temples, i. 73; chambers for them, in the palaces as well as temples, i. 85; sacred buildings in Nubia placed near the Nile for the ablutions of, i. 138; had four daily ablutions; zealous as Brahmins in avoiding personal impurity, ii. 150; shaved whole body every third day, ii. 115; the death-judgment a powerful instrument in the hands of, ii. 148; a priest in funeral procession, with mask of jackall's head, ii. 156; story from Strabo of their pampering a crocodile, ii. 305; Birmese priests are embalmed exactly in Egyptian mode, ii. 146; supposed mummy of, ii. 124; sacred name of chief priest of Thebes was Piromis, ii. 257; Rosetta stone, a monument of the gratitude and policy of, ii. 343; wore shoes made of papyrus, ii. 16, 262; not allowed fish, but had plenty of beef and goose, ii. 62. (*See* Artists, Pastophori.)

Printed calico, figure in a painting with dress resembling, ii. 174. (*See* Calico.)

Processions, religious, an important part of Egyptian and Greek ritual; images of deities borne by priests in, i. 379.

Propyla, original type of, a truncated pyramid, i. 99; description of those of Edfou, i. 69, 74; staircases and chambers in, i. 70; sculptures of, and doorway, i. 76, 77; of Carnak, 360 feet wide, 148 high, no sculptures, i. 87. (*See* Luxor.)

Psammitichus, reign of, 650 B.C., i. 31; from his time Greeks crowded to Egypt, i. 35, 129; name of, in cartouche in Museum, i. 126.

Ptolemies, the Greek kings of Egypt who succeeded Alexander; antient monuments restored by; temples of Denderah, Edfou, and Ombi, probably erected in their age, i. 35; portraits of, in Rosellini; on Egyptian monuments they appear always in Egyptian dress; on medals, in the Greek style; are distinguishable from Egyptian kings by greater fulness of face, ii. 87; accompanied by cartouches containing name, ii. 88; name of, on cartouche, with "the immortal, beloved by Phtha," i. 79; coloured, full-length, of Ptolemy II. and his wife Arsinoe, ii. 89; physiognomy of Ptolemy Philometor; portrait and description of Ptolemy VII., ii. 88, 89.

Pyramid, meaning of the word, a subject of much discussion, ii. 257; is a word of Greek origin; absurdity of Coptic etymology, ii. 258, 259; those of Jizeh, description of the site of, ii. 197; effect of first view of, ii. 198; approach to, from Cairo, ii. 201, 202; the plateau on which they stand, ii. 202, 204, i. 7; rectangular enclosures of, ii. 202; built of calcareous stone, ii. 202, 233; are not the oldest Egyptian buildings, i. 20; ii. 233, 234; age of, according to Herodotus and Manethon, ii. 259, 260; faces of, stand exactly opposite to the cardinal points, ii. 204; remains of causeway for conveying building materials, ii. 204 to 206, 219; have been greatly damaged and robbed during many centuries, ii. 217, 218; forty gigantic archways built with materials of, ii. 205; entrances, whether designed for astronomical use, ii. 241; not originally intended to be ascended, ii. 236; probably not ascended in time of Herodotus; Pliny says people of Busiris climbed them, ii. 215; sacred use of, as tombs, ii. 257; whether originally hieroglyphics were inscribed on, ii. 218, 219.

The first, or Great, dimensions of, ii. 210 to 212, and 228; surface of its four sides above 21 acres; area of base 13 acres; perpendicular height 479 feet; 119 higher than St. Paul's; six times the mass of stone in Plymouth breakwater; occupied 20 years in building; 1600 talents of silver spent for purges and onions for workmen, ii. 213 to 214; mode of building, i. 364, ii. 214; Mrs Lushington's account of her ascent, ii. 207; Belzoni's description of the prospect from the summit, ii. 209, 210; irregularity in height of steps; remarks on the outer casing of stones, ii. 216, 217; entrance-passage, ii. 220, 223, 227, 241; dimensions of long gallery; of king's chamber; queen's chamber, ii. 223, 224; Davison's chamber, ii. 225; description of, and remarks on the well leading down to excavated chambers, ii. 220 to 230; description of large chamber under centre; interior projection of external rock, ii. 227; temperature of interior, ii. 228.

The Second, or Pyramid of Chephren, dimensions of; level of base; passage of Herodotus concerning; opened by Belzoni, ii. 230 to 232; exterior entrance; description of interior; chamber containing sarcophagus, with bones of bull, ii. 232, 233; explanation of what is called the casing or coating, ii. 234 to 238; interior masonry coarse and careless, ii. 216; chambers beneath, ii. 219.

The Third, or red, by whom built; dimensions of, ii. 237; blocks found composing the casing of; has not been opened, ii. 238; curious Arab attempt to destroy it, ii. 217; the fourth, at Jizeh, has flat slab top, ii, 241; description of the smaller pyramids adjoining the large, ii. 238; description of several at Sakkarah and Dashour; one at Sakkarah, next in dimensions to the great, at Jizeh, ii. 239, 240; a great number of various dimensions, reaching sixty miles on west bank of Nile, i. 51; are probably of higher antiquity than those of Jizeh, i. 20; many small ones have been used for modern edifices, ii. 197; notice, by Herodotus, of two in Lake Moeris, surmounted with seated colossi, ii. 242; some, said by Josephus to have been built by Israelites, i. 20; Nubian, about 80, small, some with propyla attached, as at Jebel Barkal; those of Assur; interior of, not known; sides of, are not opposite cardinal points, ii. 248, 251; numerous small, at Nourri, in Nubia, with porticoes, i. 167; last pyramid in Egypt, in ascending the Nile, is between Esneh and Edfou, i. 67; description of one within another at El Bellal, in Nubia; those of Nubia not mentioned by Greek or Roman writers; date of, ii. 252; in progress of art, mounds of earth preceded pyramids, ii. 255; pyramidal form of architecture, its origin; cardinal points; steps for ascending; religious rites performed at top, i. 200; pyramidal pagodas of India show the progress of architecture, i. 201; this form not peculiar to Egypt, ii. 252; description of the great pyramid in Mexico; sides opposite cardinal points; area of base, above three times the largest at Jizeh; altar on top, ii. 253, 254;

description of two large pyramids near the city of Mexico; several hundred small ones; placed with sides to cardinal points; said to be tombs; one built of well-hewn stones, with sculptured hieroglyphics, ii. 254; East-Indian, have sides to cardinal points; pyramidal temples near Benares, with subterranean communication with Ganges; two curious pyramidal temples at Agouree; temple of Belus at Babylon was pyramidal; one described by Xenophon, ii. 255; tomb of Porsena, pyramidal; that of Sestius, at Rome, still perfect; one at Autun, in France, ii. 257.

Pythagoras, visited Egypt in reign of Amasis, i. 343; followers of, did not bury dead in woollen vests, ii. 118.

Q.

Quarries, description of those of Syene; the red granite is the Syenite of Pliny; its composition described; obelisk and colossi made of it; improperly called Thebaicus lapis, i. 356, 357; excavated temples originally quarries, i. 359; excavated chapels in, sculptures of quarrying implements, i. 360; mode of detaching blocks from, i. 358; Egyptian, Greek, and Roman inscriptions in; description of quarrie of sand-stone, of Hadjar Selseleh; furnished materials for temples, i. 361, 362; enormous blocks lying near Syene, i. 363; of alabaster, ii. 330; of verde antico an breccia, ii. 332.

Quolleh, or bardaque, used in Egypt for cooling water, ii. 178; still made near Thebes; experiment with, by M. Costaz; fanning of them to increase evaporation, ii. 179; similar, in Spain, ii. 180. (*See* Jars.)

R.

Rabbits represented in a painting, ii. 67.

Rain, seldom in Upper Egypt; cause of this phenomenon, i. 13; fruitful showers of, at Mount Barkal, i. 160.

Ram, an important animal in Egyptian mythology; specimens of, different from that in Museum; Ammon represented with head of; reason of this, ii. 295; description of colossal head of, in Museum, i. 216; strictly resembles African sheep; mild and tranquil face is very remarkable, i. 217; sacred, of Ammon, avenue of colossal, at Luxor; sometimes have wings and four heads, i. 215; avenue of, at Naga, i. 169; two of granite at Moun Barkal, i. 159, 160; figure of, with four horns, i. 196; horn of, on coins; twisted lock, resembling horn of, ii. 82;

figure, having head of, on lap, ii. 6, 16; one killed yearly, embalmed, and statue of Ammon clothed in the skin, ii. 296; figure with head of, i. 228. (*See* Ammon, Deity.)

Ramses (*see* Sesostris), several sovereigns named; all belonged to the brilliant era, when the great monuments were erected; the Great, is Sesostris of Herodotus, and Sesoosis of Diodorus; name of, inscribed at Ipsambul, and numerous other monuments of Nubia, i. 134; on cartouche in Museum, i. 114; on obelisk of Alexandria, i. 302; on three of San, i. 313, 314, 315; is perpetuated on durable stone, from northern extremity of Egypt, to southern of Nubia, i. 315; portraits of, ii. 80 to 83.

Ré, the god (the sun), i. 219, 345. (*See* Sun.)

Red Sea, fragment of Agatharchides on, i. 12.

Red paint, statues covered with; specimens of, in Museum, i. 53.

Reed, Egyptian, used for writing, at Rome, similar to qalam in the East, ii. 268, 269.

Reliefs, specimens in Museum, deserving careful examination; a peculiar mode of, ii. 43; mode of executing and painting, ii. 48, 49; excellent on altar in Museum, ii. 41; were painted various colours, ii. 45; Egyptian figures in vigorous action, represented only in, ii. 5; are the best specimens of Egyptian art, ii. 8; on the Fakir's rock in the Ganges, i. 374; character of figures in, i. 384.

Religion, Egyptian, (*see* Ammon, Animals sacred, Osiris, Isis, &c.,) prevalence of, far west, ii. 292; parallel instances of, in India, ii. 318; each nome had peculiar objects of worship, ii. 307; religious doctrines of Egypt admit of endless speculation, ii. 153; religious awe excited by magnitude and calm repose of colossi, i. 87, 105; by gloom at Elephanta, i. 178; by colossal lion, i. 218.

Rennell, Major, proved Wady Sewah to be the Oasis of Ammon, i. 128.

Road, remains of antient Egyptian, ii. 330.

Rome, superstitions of Egyptians introduced into, 96 B. C.; description of two statues at, ii. 24. (*See* Obelisk.)

Roof, in tomb of Osymandyas, of stone slabs, 12 feet long, painted with stars on blue ground, i. 238; flat, of enormous stone slabs, of great hall of Carnak, i. 88, 89; similar, of enormous hall of temple of Chalembaram, i. 184; same at Muddunpore, i. 203; that of Elephanta, copied from it, i. 178, 204; mode of constructing flat stone roof, i. 97; Arabs live with their cattle on roof of Edfou temple, in mud huts, i. 73, 75.

Rosellini, his argument to prove byssus to be cotton refuted, ii. 182 to 186.

Rosetta stone, where found by the French; remains of others, similar; history and description of, ii. 342, 343; mode of comparing its three texts, ii. 344; comparison of the hieroglyphic and Greek; the Greek is not a translation of the hieroglyphic, ii. 367, 368; hieroglyphic does not represent Coptic; the hieroglyphics are signs, not of letters, but of things and ideas, ii. 369; enchorial text is alphabetic and syllabic, ii. 371. (*See* Hieroglyphics.)

Rüppel, his description of Barkal; his fidelity of description, and classical blunders, i. 160.

S.

Sâ, the antient Sais, adorned by Amasis with monolith temple and colossus, i. 32, 43.

Saba, the antient, i. 173.

Sabacos, Ethiopian invasion of Egypt by, 800 B.C., i. 31; raised mounds to cities, i. 46.

Safflower used for dyeing mummy-cloth, ii. 190.

Sale of land near Thebes, 106 B. C., curious papyrus MS. concerning, ii. 274, 275.

Salsette, description of excavated temples at, i. 182.

Salt, embalmed bodies laid 70 days in, ii. 103. (*See* Natron.)

Samos, Egyptian art first introduced into Greece at, i. 370, 382.

San, the antient Tanis, Zoan of the scriptures; ruins of, attest its antient magnificence; mounds of crumbling bricks, 1,000 feet long and 700 wide; the antient city, five miles in circuit; present condition of, i. 44, 45.

Sanctuary (*see* Adytum, Holy recess), of Egyptian and Indian temples, stood at first alone; was afterwards surrounded by larger and splendid structures, i. 201; description of that at Ipsambul, i. 131; at Debod, i. 144.

Sandals, on painted Egyptian figures, in Museum, ii. 52, 54; of painted leather on feet of mummies, ii. 120; on Ramses and his wife, ii. 84, 85; on male figures in monumental groups, i. 393, ii. 79; representation of, ii. 6, 16.

Sand-stone used for great slabs in temples and sculptures, i. 10.

Sarcophagus, probably used only for kings and the wealthy; one with two mummies in it; several fine specimens of, in Museum; Pliny quoted, concerning use of; unknown when Egyptian stone coffins first received this name, ii. 133; description of two large, in Museum, ii. 134; one of them of green breccia, from Alexandria; number and minuteness of its sculptures, ii. 135; dissertation, by Dr. Clarke, to prove it is Alexander's; remarks upon, ii. 136

to 140; the great, in large hall of royal Theban tombs, ii. 170; beautiful one of white alabaster, found in Theban tomb, ii. 172; of Cheops, in the great pyramid, ii. 219; description of; could not have been brought in through entrance-passage, ii. 224, 225; description of, in great chamber of second pyramid, containing bones of a bull, ii. 233; one in Museum (No. 39), painting of, restored, ii. 140; another (No. 32.), beautiful specimen of Egyptian art, ii. 141; placed erect, like mummy-cases; one in Museum (No. 3), gilded; large one, with figures and birds, finely sculptured, ii. 142; that in court-yard of Museum, ii. 143.

Scarabæus, symbol of Phtha (which *see*), the generating power of the world; specimen of one in lapis lazuli, with golden wings and sphere on breast of a mummy, ii. 121; are found in coloured porcelain, touchstone, cornelian, jasper, potstone, verde antico, and baked clay; one of jasper, ii. 333; great numbers in green basalt, in tombs; those with hieroglyphics are rarest, ii. 30; with human heads; occurs very often in sculptures and paintings; is very difficult to explain; ball he holds is not symbol of the earth; perhaps of the sun; is a ball of dung, ii. 32; is sacred symbol of Serapis; specimen of, in high relief; the colossal, in Museum, ii. 34; is distinguished by radiations on the clypeus, ii. 136, 312; generally has disk between fore-legs; Zoological Society has fine specimens of, ii. 312; always connected with Phtha (Hephæstus) emblem of eternal fire; appears on zodiac of Denderah; Aristophanes quoted, remarks on, by Latreille and Horapollo; has appearance of rays on it; consecrated to the sun; 150 specimens of, in Turin collection, ii. 313, 314; on Campus Martius obelisk, having large disk of sun, i. 345; on sarcophagus in Museum; human figure with beetle's head, ii. 136; sun indicated by, ii. 362.

Science erroneously thought to have been highly advanced in Antient Egypt, ii. 340.

Sculpture (*see* Statues, Colossi), origin of, and of painting, of any nation, to be sought in the nation itself; modified by imported ideas, i. 368; facts of resemblance in other nations, i. 368; probable origin of, the cutting outline on flat surface into relief, i. 372, 374; proper and highest subject of, is the human form; in this the Greeks were unrivalled; best specimens of Egyptian art, like Hindoo, are not the human figure; this accounted for by the priest caste perpetuating fixed religious forms, i. 293, 369; animals executed best; materials used for, i. 370; mode of forming proportions of statues, i. 380, 381; Egyptian statues all monoliths, i. 374, 381; unity of mass produced attitudes of repose, i. 375; a few types multiplied, and compounded, enter into every part of sacred sculptures of Egypt and Nubia, i. 168; description of some historical sculptures at Kalapshé, i. 392; antient sculptures of Egypt are made interesting by reading the Greek, Roman, and Arabian historians of the country, i. 16; difficult to determine what is genuine Egyptian, unmodified by foreign conquest, ii. 8, 17; is of three kinds; the bas-relief, i. 382, 384; intaglio rilevato, i. 384, 385; painted, i. 390; antient specimen of Egyptian sculpture in Ionia, i. 395; painful labour bestowed even on parts unseen, i. 384; curious instance of Greeks adopting Egyptian form of a divinity, Apollo, i. 382. (*See* Figures, Reliefs.)

Sekos, or Cella, in Egyptian temples, description of, i. 71.

Semennut, the antient Sebennystus, contains ruins, i. 43.

Semneh, in Upper Nubia, remains of temple at, i. 151.

Sepoys, Indian, story of their conduct at Denderah, i. 18.

Serapis, doubtful whether belonged to antient mythology of Egypt; numerous temples of, in Greece and Italy; magnificent one at Alexandria, ii. 32; destroyed by Christians, i. 41.

Serpent, sacred, uræus, emblem of regal authority, i. 123; ii. 83, 84; deification of, a curious part of Egyptian religious system; similar practices at present in India; cerastes, sacred to Ammon; is common on sculptures in Museum, ii. 315, 326; erect with swollen neck and tail intertwined; is the most common of hieroglyphics; most venomous; emblem of Cneph, *ὁ αγαθος δαιμων*; mark of regality; appears on front of tiara of deities and kings, ii. 318; on cap of Memnon, in Museum, i. 275; of Colossus, in Museum, i. 273; with mitres on, i. 56; on front of andro-sphinxes, at Essaboua, i. 213; on each side of a winged globe, is usual ornament of friezes, i. 77; small serpent in attitude of an S, ii. 318; venomous nag worshiped in India; account of, by Colonel Brigs; made docile by playing of pipe; pampered by priests with milk and sugar, ii. 318; planets represented by, ii. 362.

Sesce, or Sasef, in Nubia, pillars covered with hieroglyphics in temple at, i. 155.

Sesostris (*see* Ramses), a real personage; remarks on, i. 28, 30; epoch of, about 1500 B.C., i. 31; raised mounds to several cities, i. 45; sailed from Red Sea, and conquered Indian nations, i. 391; most memorable exploits of

Egyptian history attributed to, i. 395, 397; large enclosure at Medinet Abou used in time of, i. 237.

Sethos, the priest, succeeded to supreme power in Egypt after Ethiopians, i. 31.

Sheep, not eaten by people of Thebes; were eaten at Mendes, ii. 296.

Sheikh Erede, colossal statue of a Roman senator at, i. 57.

Shepherd-kings. (*See* Hyksos.)

Shields, long wooden, of Egyptains, i. 392.

Ship, the sacred or holy, annual procession of, i. 95; one of the most celebrated Egyptian festivals, i. 96; description of, on walls of Carnak, i. 219; in sanctuary of Essabona, i. 143; in adytum of Derri, i. 137; in temple at Semneh, i. 151; repeated on many monuments of Egypt and Nubia, i. 176.

Shoes, leather, of various shapes, well tanned, stained and embossed, found by Belzoni, ii. 339; of byblos or papyrus, worn by priests, ii. 16, 262; none, says Winkelmann, on Egyptian figures, ii. 16; description of Egyptian sandals, ii. 16; figure in Museum having flexible, ii. 37; in painting from Thebes, like skates, ii. 42; no shoes on figures of paintings in Museum, ii. 79. (*See* Sandals.)

Silbury Hill, in Wiltshire, description of, ii. 256.

Sileo, Prince of Nubia, his invasion of Egypt, and Greek inscription at Kalapshé, i. 41.

Silver, site of mines of, i. 12; not known to have been in Egypt; rectangular plate of, on a mummy, ii. 327, 328.

Siout, the antient Lycopolis, now chief place in Upper Egypt; great tombs adjoining, i. 56.

Sistrum on Cairo obelisks in Museum, i. 327.

Siva, one of the Indian trinity; represented often as a bull, i. 371; once as half-man, half-woman, i. 181. (*See* Elephanta, Ellora, Bull, Trident.)

Skulls, Egyptian, remarked by Herodotus to be very thick, from shaving head and wearing no covering, ii. 115; account of insects found in mummy-skulls, ii. 107.

Solomon, decorations of his buildings resembled those of Egypt; probably employed Egyptian artists, i. 20, 21.

Sphinxes, origin of the name much disputed, i. 225; no etymology of, in Greek and Coptic, i. 226; definition and detailed account of, i. 211, et seq.; most commonly used for avenues or approaches to temples; avenue of, now existing at Essabona in Nubia, i. 143, 213; at Carnak, i. 212; at Luxor, i. 214; the great, at Jizeh, description of, ii. 242 to 247; is an andro-sphinx; fragment of beard of, in Museum, ii. 244; andro and female sphinx belong to worship of Osiris and Isis, i. 227; many andro-sphinxes made by Amasis for great temple at Sais; colossal one excavated at San, i. 45; figure of andro-sphinx, with human arms, i. 304; andro-sphinx as hieroglyphic on block in Museum, i. 124; lion-sphinxes, list of six kinds of, i. 230; row of crio-sphinxes (ram-headed) in good preservation at Carnak, i. 87, 91, 213; are most appropriate emblem of Ammon; are placed immediately near the temple, i. 215; number of sphinxes once existing there; one avenue of, woman-headed, 1,500 feet long, i. 214; instances of woman-headed, with hands each on wrong side, i. 212, 218; unfinished sphinxes in quarries of Selselah, i. 214; were once as numerous in Lower as in Upper Egypt; large marble one at Heliopolis, similar to those of Essaboua, i. 218; usual posture of, and exceptions; standing female, one with lion's tail and ram's horns, i. 219; sitting and walking sphinxes at Sedegne, in Nubia, i. 220, 221; description of hawk-headed in Museum, i. 221; description of a Theban sphinx, with sculptured figure attached to breast, i. 216; winged, are peculiar to Greeks; specimens of, in Townley Collection, British Museum, i. 220; belongs to oldest fables of Greeks; the Theban sphinx, described by Euripides; colossal Jupiter, by Phidias, had sphinxes about his throne, i. 231; so, the Amyclean Apollo, and great statue of Minerva at Athens; story from Herodotus, of house surrounded with, i. 232; Greek form of, probably of Phœnician origin; connected with the Cadmean story; appears on coins of Spanish towns of Phœnician origin, i. 233; example of winged, or triumphal arch at Tripoli, i. 233; is found in India among sacred objects of temples, i. 225; at great temple in Java, half-lion, half-elephant; only andro-sphinxes in India; represent fourth incarnation of Vishnu as man-lion; most speculations on the origin of, are unsatisfactory, i. 225, 226.

Staircases, in the propyla, i. 70; leading down to tombs, at Gournou, i. 208, ii. 172. (*See* Steps.)

Stars, painted on blue ceiling, in palace of Osymandyas, i. 238. (*See* Adytum, Sun.)

Statues, Egyptian, many possess individual character of face, ii. 42; position of arms of standing, ii. 5; always in state of repose; back always attached to mass of stone, ii. 7; halves of, longitudinally divided, exactly alike, ii. 8; of wood, at Thebes, i. 240; of marble, ii. 5; of gold, i. 290; a Greek-Egyptian, ii. 161. (*See* Colossi. Figures, wooden. Statues.)

Steps, flight of, from avenue of temples to the Nile, i. 87, 138, 144; as in India, i. 139; of tanks, i. 66, 87.

Stone, four kinds of, used by Egyptians, i. 294.

Stones, precious, mines of, described, ii. 329, 330.

Sulphur, production of eastern desert of Egypt, ii. 332.

Sun, and numerous stars represented on great monolith of Memphis, i. 196; the Sun, Lord of Truth, inscribed on back of great Memnon at Thebes, and in British Museum, i. 269; named the Great God; the Lord of the Heavens. in six inscriptions on great Egyptian obelisk at Rome, i. 340; goose and disk of, signifies son of the sun, i. 314; disk of, is emblem of God Ré, i. 304; appears in cartouche on monolith at Tel et Tmai, i. 195; Egyptian obelisks at Rome inscribed to sun, i. 343, 344; obelisks were inscribed, says Pliny, to the sun; their form resembling a ray, i. 351, 352; device of solar disk, with radii having hands, ii. 331; hawk, an emblem of, ii. 310.

Superstition of Egyptians introduced into Rome, 96 B.C.; occasionally suppressed there, till time of Hadrian, ii. 24; India most rich in still existing examples of, similar to Egypt, ii. 318.

Swathing of mummies, account of, ii. 116; weight, length, and colour of bandages, ii. 117, 127, 165; process of, represented, ii. 153. (*See* Linen, Mummies.)

Swords, Egyptian, curved, i. 393.

Syene (*see* Assouan), quarries of, i. 11; is natural boundary of Egypt; dominion of Pharaohs and Ptolemies extended south of, i. 13. (*See* Quarries, Granite.)

Symbolical religious forms of antient eastern world cannot easily be understood by modern inhabitants of Western Europe, i. 226.

Symmetrophobia of Egyptian architects, i. 91.

Syncellus, George, chronicles of, i. 26.

T.

Tablets in Museum having Egyptian writing on them, ii. 285.

Tanis (*see* San), antiquity of, existed in time of Moses, i. 315.

Tank, traces of such lakes or ponds found near many temples; numerous passages in Herodotus prove their antient existence; found near all great ruins of temples in Upper Egypt; sufferings of Osiris represented by night on that of Sais, ii. 150; used to supply water for service of temples; for the four daily ablutions of the priests, ii. 150; every Egyptian temple not near the Nile provided with a; so the Hindoo pagodas, i. 139, 185; large one at pagoda of Chalembaram, i. 185; at Carnak, with flight of steps down to it, i. 87: at El Meçaourah, i. 173; at Medinet-Abou, i. 236; at Erments, i. 66.

Tau, sacred (*see* Crux Ansata), appears in crossed hands of figures before the crio-sphinxes at Carnak, i. 214.

Teeth, of a female mummy entire and undecayed; present natives of Egypt remarkable for fine teeth to old age, ii. 98.

Tel Artrib, the antient Athribis, mounds of, five miles in circuit, i. 45.

Tel Basta, Pi-Beseth of Scripture, mounds of, three miles in circuit, i. 45.

Temples, all the oldest of Egypt retain most distinctly the characteristics of excavation in the rock, i. 142, 143; augmentation of, in successive ages, i. 84, 143; three appendages of, requiring particular notice, sphinxes, obelisks, colossal statues, i. 211; sculptures on walls of, i. 86; imposing effect and magnificent appearance of, i. 149; the most striking points of resemblance between Egyptian and Indian, i. 186; effect of brilliant colours of painting in, ii. 45; position of, as to cardinal points, not invariable; main front mostly towards the Nile, i. 218; superior preservation of some, owing to difference of foundation, i. 366; profusion of ornaments in, i. 120; those of Upper Egypt are the most striking remains of Egyptian architecture, i. 42; many used for Christian worship; figures plastered over and defaced by Christians, i. 38; those of Nubia are richly painted, ii. 46; that of Essabona is one of the best and most antient in Nubia; no traces below first cataract of similar, i. 143; rock-cut, at Derri and Girscheh, are of the rudest and oldest in in Nubia, i. 136, 137; most antient rock-cut Nubian, are between first and second cataract; the most remarkable that of Ipsambul, i. 130; between second and third cataract, that of Soleb most interesting; peristyle court of, is specimen of lightest Egyptian architecture, i. 152, 153; description of that at Dandour, i. 138, 139; at Bebek, magnificent remains of, i. 43, 44; at Gournou, of great antiquity; peculiarity of pillars of, i. 102; the great, on the island of Philæ; used for Christian church, i. 38; remains of, at Sarbat, in Arabia Petraea, i. 129; the great, at Luxor, built partly with materials of one more antient, i. 215; the great, at Carnak, had twelve principal approaches, i. 91; the great, of Memphis, described, i. 52; had four principal propyla turned to cardinal points; Carnak the same, i. 92; enormous temple supposed to have existed behind seated colossi at Thebes, i. 281 to 284; remains of, in front of second pyramid of Jizeh; enormous blocks, some 24 feet high, ii. 243; of Ephesus, description of, by Pliny; its foundation, i, 367; Greek temples in Upper Egypt before time of Herodotus, i. 129; Ionic, on Mons Porphyrites, ii. 330; rock-cut, of India, of higher antiquity than pagodas, i, 183; temples near Benares, pyramidal, ii. 255; Solomon's, of same epoch with some existing in Egypt, i. 119; of Belus, at Babylon, on top of pyramidal structure, ii. 255 (*see* the various names of places containing temples); sculptured stone plate in form of a, hanging to neck of statue in a tomb, i. 351; Indian, facing cardinal points, ii. 255.

Teotihuacan, in Mexico, pyramids of, described, ii. 254.

Thebes, ruins of, i. 61; Denon's magniloquent account of a first view of, i. 62; nothing at, described by Herodotus, but the wooden colossi, i. 62, ii. 243; great monuments of, the best school for study of old and genuine Egyptian architecture, i. 65, 81; Ethiopian origin of, i. 96; of greater antiquity than Tanis or Zoan, i. 315; largest and almost only description of, by antients, is in Diodorus; is a very confused one, i. 94; mentioned by Homer as having 100 gates; common name among Greeks, Diospolis the Great, i. 95; ruins of, display the genuine arts of Egypt prior to Grecian influence, i. 398; great monuments of; are most antient of any existing in Egypt, i. 143; years would not suffice to copy the innumerable decorations of, i. 127; the city extended to the mountains on each side of the Nile; four principal villages now on the site of, Luxor and Carnak east, Gournou and Medinet Abou west, i. 63 (*see* these names); population of, was very great; private houses were huts, chiefly of wood, i. 32; devastated chiefly by the hand of man, i. 32; ruin of, ascribable to Ethiopian conquerors, i. 31; burning of, by Cambyses, i. 32; taken and plundered by Ptolemy Lathyrus, i. 35; attacked by Carthaginians, i. 33; little done by Ptolemies to embellish it; suffered under Greek dominion, i. 35; remains on western side more interesting than on the east; belong to a period anterior to Persian conquest, 525 B. C., i. 65; are equal in magnitude to those of Carnak and Luxor, and contain the best specimens of Colossi; no obelisks on west side; ground-plan of, i. 234, 237; Thebes was the centre of Egyptian power and commerce long before Memphis, i. 66; names of Thutmosis, Amenophis, and Ramses, are conspicuous on great buildings of, i. 31; caves or tombs of, described, ii. 166, 167; was in its full splendour 1600 B. C., i. 31.

Theodosius, his suppression of Pagan temples, i. 41.

Thermometer, instance of, in Egypt standing in shade 110·75 of Fahrenheit greatest part of the day; water of the Nile 82·6 at sun-set, ii. 179.

Thoth. (*See* Hermes, Ibis.)

Thutmes IV., portraits of, ii. 80.

Thutmosis, same as Assyrian Teutamus, i. 268; king of Thebes, expelled the shepherds, i. 30.

Tiberius, name of, on temple of Denderah, i. 36.

Tin, no traces of, in Egypt; was used, says Agatharchides, in Egypt; must have come from India; whence it came into Greece before supposed visit of Phœnicians to Britain, ii. 328.

Toes, Egyptian, description of, ii. 12.

Tombs, were connected originally with temples; called eternal habitations; magnificently ornamented; supply nearly all the knowledge we have of antient Egyptian art and daily occupations, ii. 96; are seldom in cultivated parts, but in or near the deserts, ii. 150; those of kings, within the enclosures of temples, ii. 151; tombs of Thebes described; excavated in rock; extend two miles; deep shafts leading down to chambers; endless winding recesses; present state of; mummies accidentally catching fire, ii. 166, 167; alarm of two Frenchmen left without light in, ii. 168; tombs of the kings (Biban el Molouk); Belzoni's description of them, ii. 169, 170; all are cut out of solid rock; curious unfinished one opened by Belzoni, ii. 170; the great one opened by him in this valley is one of the most interesting discoveries in Egypt; description of it, ii. 171, 172; he took impressions in wax to form the models exhibited in London, ii. 175; paintings in this tomb of deepest interest, ii. 48, 173, 174; car touches found in it, interpreted by Dr. Young, ii. 175; tombs of Gournou described; in plains 14 feet below surface, i. 208, ii. 170; the harper's tomb, ii. 177; tombs of the females sacred to Jupiter, i. 238; tombs of Abousir, near great pyramids of Jizeh, ii. 160; contain great number of painted reliefs on agricultural subjects, music, and dancing; Captain Caviglia's clearance of an entrance-shaft 60 feet deep, ii. 161; filled with jars of embalmed birds; heads of oxen seen, ii. 164; poor people obtain a living by ransacking them for mummies, ii. 165; Libyan tombs, best school for studying Egyptian arts and social life, i. 234; of Girscheh; sculptured figures in family groups, i. 137, 138; of the Scythian kings, ii. 256; of Porsena, ii. 257.

Tonsure, a figure with crown shaved, ii. 71.

Tools, description of, used by the Hindoos for sculpturing and polishing granite, i, 206.

Torso, in Museum, beautiful specimen of sculpture, ii. 38.

Tradition usually assigns to one hero the exploits of many, i. 395, 397.

Treasure-house, Egyptian, story in Herodotus about secret of entering one, i. 141.

Trident of Siva, surmounting three pagodas, near Ellora, i. 187.

Truth, figure of, suspended from neck of Egyptian chief justice, i. 240.

Typhon, the evil deity, temple of (Typhonium), at Edfou, Denderah, Philæ, beside temples of the good deity, i. 79, 161; represented by crocodile, ii. 305; took form of crocodile to escape the vengeance of Horus, ii. 305; representations of, at Denderah, Edfou, Naga, and Mount Barkal, i. 109, 162, 167; murdered Osiris; was triumphed over by Isis, i. 168; magical invocation of Typhon Seth, the all-destroyer, in papyrus MS., ii. 282.

Tyre, when Alexander took, he found there a religious mission from Carthage, i. 96.

U.

Unicorn, figure of, at Edfou, i. 75.

Ure, Dr., in his microscopic examination of mummy-cloth, differs from Mr. Bauer, ii. 193, 194.

V.

Varnish, on reliefs, ii. 49; on sarcophagus in Museum; on mummy-cases; many painted woods covered with very bright; material of; experiment on, by Professor John, ii. 51.

Vases, or jars, specimens of, in Theban tomb, remarkable for beauty of form and brightness of colours, ii. 178; resemble Roman amphoræ, ii. 179; of gold, ii. 329.

Verde antico, site of quarries of, ii. 332.

Vermin abound in Egypt, ii. 115.

Vine frequently represented in Egyptian paintings, ii. 78.

Vishnu, statue of, with Egyptian pyramidal cap, i. 290; picture at London Asiatic Society of incarnations of, i. 226.

Volney, his description of the physical aspect of Egypt, i. 14.

Vulture, one of the most picturesque of Egyptian birds of prey; often appears on Egyptian monuments, i. 140; extremely well delineated; very useful in Egypt as scavenger; symbol of Phtha; with expanded wings over some temple-doors, ii. 311.

Wady el Khargeh, Oasis Magna, remains of several antient temples in, one very large, i. 128.

Wady Halfa, the second cataract of the Nile, i. 151.

Wady Siva, Oasis of Ammon, remains of Egyptian temple in, discovered by Minutoli, i. 128.

Water, a spring of fresh, no common thing in Egypt, i. 47.

Wax, used for fastening colours, ii. 49; a wax-glazing on figures in Museum, ii. 53; bodies preserved in, ii. 144, 146.

Weaving and dyeing of linen cloth, of high antiquity, ii. 339; men were the weavers in Egypt as in India; representation of, in painting, ii. 340.

Whip. (*See* Flagellum.)

White-headed men, in a picture, i. 285.

Wilkinson, Mr., on the eastern desert of Egypt, i. 4.

Williams, Mr., remarks of, on mummy-cloth, ii. 190, 191.

Wine, much drunk, says Herodotus, by Egyptians; process of making, frequently represented in Egyptian paintings, ii. 78.

Winkelmann, extract from, describing the dress of several Egyptian statues, ii. 20, 21; his remarks on sphinxes, i. 225.

Wood, scarcity of, in Egypt, i. 119; petrified, i. 10.

Wooden statues, specimens in Museum of small, of sycamore; two large, seen by Herodotus at Samos, presented by King Amasis, i. 370; he saw at Thebes 345 colossal statues of wood, representing high priests of the temple, i. 370, 371; same at Memphis, i. 380; two large wooden figures of very fine workmanship at Thebes; are among the oldest specimens of sculpture; common among the early Greeks; instances from Pausanias; various woods used; finally were covered with gold and ivory, i. 372, 373; wooden gilded cow, containing body of daughter of King Mycerinus, i. 371.

Writing, description of a painting, representing two figures writing, ii. 272; description of the writing on papyri; division into pages, ii. 269, 270; the pen or reed used for, ii. 268; Egyptian wrote from right to left; proof of this, ii. 266, 269, 271; initials and portions of MS. in red ink, ii. 270, 272; specimen of enchorial writing, ii. 271, 318. (*See* Papyrus.)

X.

Xenophon says Egypt was conquered by Cyrus, i. 32.

Xerxes, name of, on a vase, i. 33.

Y.

Yellow, used as conventional colour for human figure; wife of Ramses painted yellow; female figures pale yellow, ii. 85, 86. (*See* Henné.)

Young, Dr., his mode of comparing the inscriptions on the Rosetta stone, ii. 344, et seq.; his mode of determining the phonetic value of hieroglyphics, ii. 346, 347; gave the first hint to Champollion that they represent sounds, ii. 348, 349; date and character of his publications, ii. 349, 352.

Z.

Zodiac of Denderah, the scarabæus in place of the crab appears on, ii. 313; remains of one at El Meçaourah, i. 173.

Zoëga, learned work of, on obelisks, i. 296, 297; first used the term phonetic with respect to hieroglyphics, ii. 346; made list of 958 different hieroglyphics, ii. 367.

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